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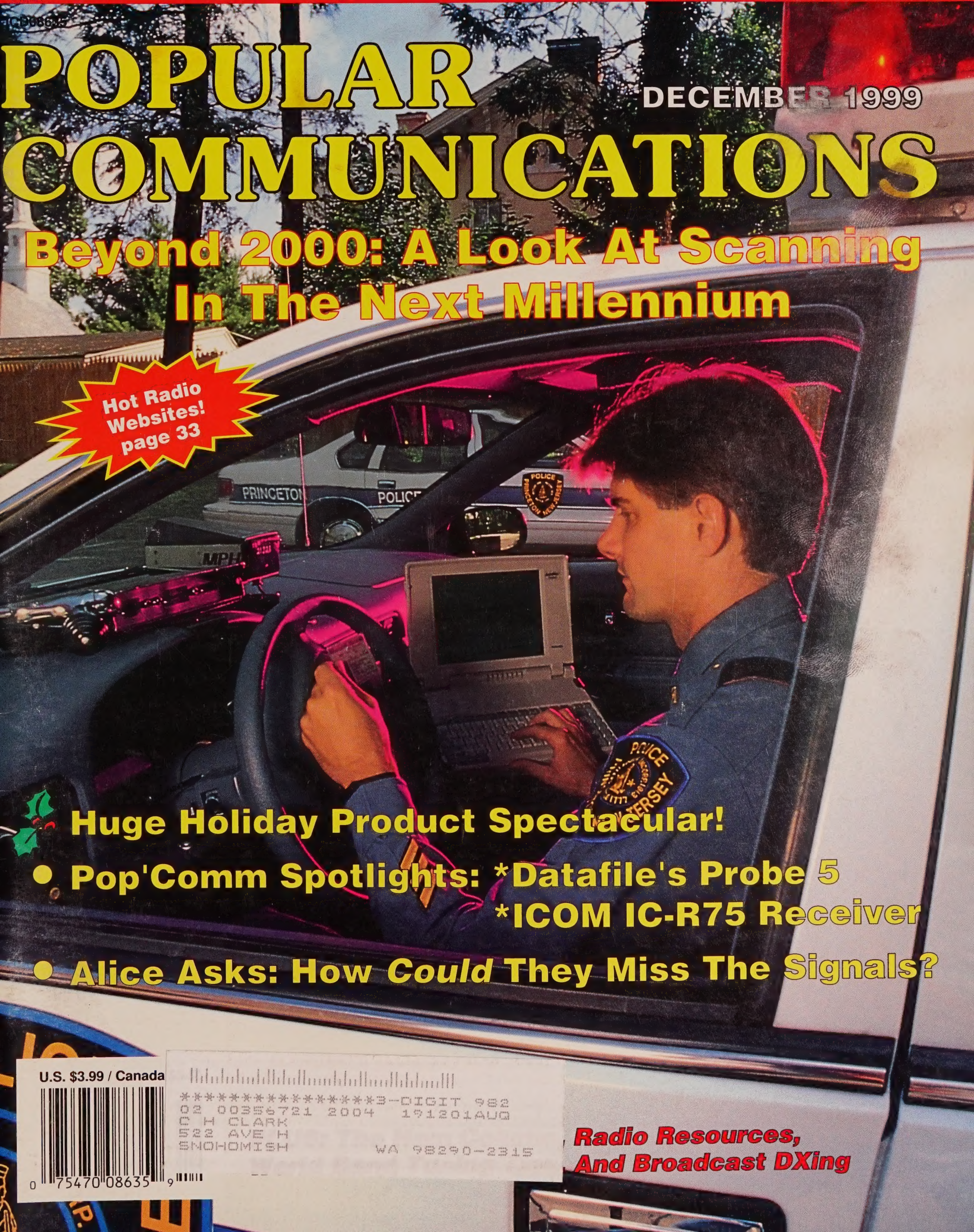
DECEMBER 1999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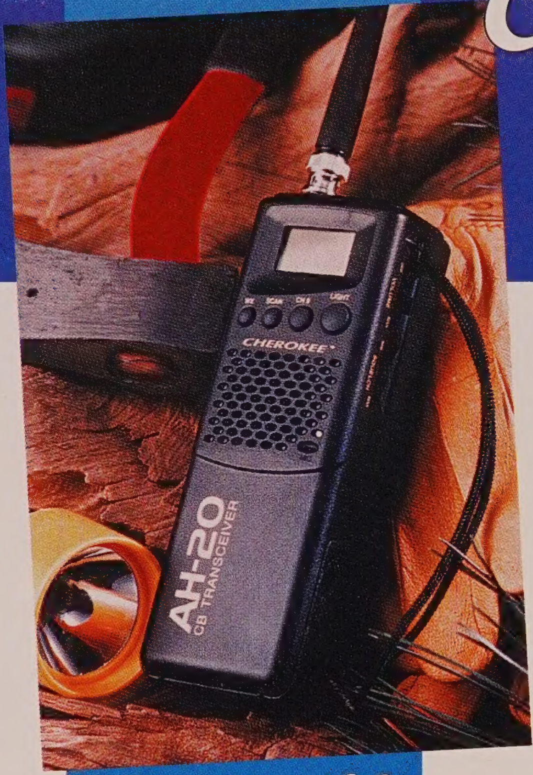

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On The Cover

This Princeton, New Jersey police officer uses the latest communications technology — his cruiser's computer/radio terminal. What's the future of scanning? Will new generation scanners allow us to continue monitoring the airwaves? Columnist Ken Reiss has been busy looking into his crystal ball. Read this month's "Scan Tech" column on page 26 for details. (Photo by Larry Mulvehill)

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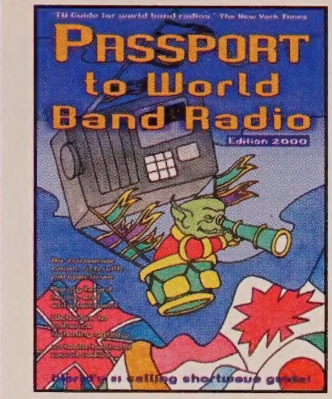

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tuning in

An Editorial

Help Wanted — For Your Own Safety!

When was the last time you called for, and got help on Emergency CB Channel 9? If you did, consider yourself lucky because, unfortunately, it's also rare. There's something wrong, but you and I are only *part* of a larger problem!

We've been receiving a lot of letters and calls recently about the status of REACT. Personally, I believe that REACT's days as an organization are limited. The REACT bureaucracy seems to be more concerned about the numbers game; how many folks volunteered at "x" number of community events and how many hours were spent monitoring emergency Channel 9 than bringing in new, younger members that can probably bring much needed vitality to the organization — AND Channel 9 monitoring. As I've said many times before, the REACT folks out in the trenches are well-intentioned and hard-working — people you'd want on your team and in your neighborhood in the event of disaster. It's the bungling organization itself that has become so bogged down in the numbers game that for the most part, it's losing touch with its stated purpose: "Public Service Through Communications."

Right now, REACT could be helping communities by providing volunteer radio operators in our Nation's violence-plagued schools. Experience tells me that the mere *presence* of an official-looking person (leave the rain slicker home!) with a hip-mounted radio can go a long way toward cutting crime — anywhere! Is REACT doing this? Our *Pop'Comm* office gets more news releases than Rep. Billy Tauzin gets wild ideas and schemes, and I haven't seen one about REACT getting involved in such a project. Talk about missing an opportunity!

What about Y2K? The time is NOW, REACT! Encourage all Neighborhood Watch leaders to get an inexpensive 12 Vdc mobile CB hooked to a power supply or a CB walkie-talkie, so when the power goes out in January, thousands of neighborhoods around the country have at least some protection.

Instead, REACT is concerned about, as their latest news release says, the "Alarming Increase in Illegal Two-Way Radio Use." Actually, it isn't really a news release, but that's another story. (I regularly monitor GMRS frequencies at home and on the road and frankly, for the most part, the frequencies are *underutilized* — even by licensed users.) That too, is another story.

Then there's the annual REACT convention and the recent move from Kansas to Maryland. Seems to me that REACT could be successfully run from an inexpensive home office in Anywhere, U.S.A., without a lot of overhead and drum-beating that currently takes up way too much of the organization's time. Fact is — and this is, perhaps, the single most important fact about REACT — much of the public is still ignorant about REACT, *an organization that's been around for nearly 40 years!* Mention "REACT" to 50 of your non-radio friends and they won't react.

What can YOU do? Today — right now — you can be part of the solution and spread the word about Channel 9 and its benefits. And if you've never used Channel 9 before, getting help on the Nation's only emergency channel *should be* as easy as 1-2-3. Try this test in your hometown: Get on Channel 9, repeat your name, location, type of assistance or highway information needed, and wait for a response. No response? Start your own local or regional team. All it takes is a radio and a few hours of your time every week.

Understand that while it's not rocket science, it's amazing how many emergency assistance calls are never considered complete because the caller failed to give enough details. Like everything else in life, there's a right and wrong way to get and yes, give help on Channel 9. Forget the frantic, "Is anyone there? Can anyone hear me?" call all too many monitors have heard time and time again. Put yourself in the monitor's shack for a moment. It's late at night, you're on the

(Continued on page 75)

BY HAROLD ORT, N2RLL, SSB-596

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Leave REACT Alone!

Dear Editor:

I'm writing regarding the letters about the REACT organization in the April and May editions of *Popular Communications*. I would like to make you fully aware that the men and women of REACT have tirelessly dedicated, unselfishly, many hours of service to their communities for over 37 years.

It is really great that REACT receives good, positive public relations-type articles, but this is the worst I have seen in my 14-year tenure with the organization. As you can gather, I am a dedicated REACT member for over 14 years.

Yes, there are only 5,000 members worldwide and yes, there is a downfall in the monitoring of Emergency Channel 9, but we still monitor Channel 9 on an "as available" basis. We, Tobacco Valley REACT, Team 3625 in the Greater Hartford Connecticut, monitor an average over 2,600 hours on Channel 9 and provide over 200 hours of community service for events such as "Because We Care Day," and "Operation Stand Down." With CB radio being the very cheapest form of communications around, why settle for anything less?

There are some REACT members who think differently. The CB radio is noisy, there is too much swearing and bad language, co-channel bleedover, and individuals who throw dead carriers. Yes, it can be noisy every now and then, and yes there is an earful of bad language, and even dead carriers. Just ignore them all the time or squelch them and maybe they will go away for good.

Lots of members feel the same way I feel. Perhaps the FCC should bring back the old licenses with a complicated written test like in amateur radio, making it a requirement to use your callsign with the FCC fully cracking down all violators with very high stiff fines and jail time. This could be the solution as compared to FCC pawning their work off to the local officials who have their hands full fighting all types of crime. And that gentleman in the May issue who wanted to "abolish CB radio" — CB needs to be put back into control, not to be abolished for whatever the reason.

Instead of the usual complaining and ridicule of what the organization does not do for you instantaneously, why not join us and engage in what I joined REACT for: to help people. Being selfish is not going to get you there, nor will it bring high rewards, but huge pain and despair. In essence, criticize things you don't know much about and always have negative things to say. Maybe we'll just go away. I doubt it. If you can't beat us, join us.

REACTactually yours,
Joe Nadeau, President,
Tobacco Valley REACT Team 3625
Greater Hartford, Connecticut

Dear Joe:

REACT is a fine organization comprised of extremely well-intentioned folks who give unselfishly to their community in many ways. As I see it though, the problem — or perhaps more accurately, the dilemma — is getting the public to believe in and understand the value of Ch. 9 and REACT. I've tried countless times to raise a REACT member or Ch. 9 monitor all up and down the East Coast with no luck. I've even gone as far as asking for directions on Ch. 9 in many areas of the country and all I hear is static.

Folks buy a CB to stay in touch with another vehicle while traveling the interstates or to talk to a family member on the farm or in a small community. Clearly the other CB group is the professional driver — truckers. Then there's the CB hobbyist who uses CB, both AM and SSB, to make friends and talk skip.

I'd like to see a CB tuned to Ch. 9 in every police station, sheriff's department, and state police agency in the country. These in-station posts could easily be manned by volunteer REACT members on a rotating shift basis, taking no precious time away from paid public safety professionals.

It also makes sense for all car manufacturers to have Channels 9 and 19 CB built-in the dashboard as standard equipment, along with a pinhole mic on the steering wheel. Simply push the lighted "CB" button on the dash for instant radio (and instant NOAA weather, too). The cost would be negligible — about the same as a map light or cupholder. A dream? Perhaps, but certainly worth discussion.

I don't know who's counting how many CBs there are in the hands of the American public, but rest assured, licensing didn't work the first time and it won't work again — ever. The experiment failed, and failed miserably, frankly, because Uncle decided to put the "citizens band" on 27 MHz and because licensing is a bureaucratic nightmare that the FCC is glad it washed its hands of many years ago.

Only 20 Percent Are Buttheads!

Dear Editor:

This is in response to a Letter to the Editor "Calling All CBers — And NOAA" in your August issue by Warren Eggers. Apparently, Mr. Eggers must have had some bad backyard experiences with his neighbors, but that hardly calls for abolishing 11-meters.

Being involved in CB, shortwave, and monitoring ham radio since 1972, I can say that only 20 percent of CBers I have had contact with are "buttheads," as Mr. Eggers so rudely calls them. I mostly operate SSB CB, callsigns are used, not handles, and QSO protocol is similar to ham radio.

Fact is, over many years of monitoring ham radio, there are some hams on the air that are not what you would call "model operators." I have heard them rant and rave over politics, world affairs, curse openly, and the cardinal sin: they didn't use their callsigns. I'm sure this is a fact that most people don't even hear about!

Name calling, arrogant presumption of someone's intelligence, and almost military-style recruitment into ham radio is certainly not doing the hobby any good either. I proudly display my SSB CB callsign certificate in my DX shack, just like a ham displays his license in his shack. And it seems to me the problem is not with the many, but with the one!

73s,
Paul Specht, SSB-62E
Port Saint Lucie, Florida

Amateur Operators Beware!

Dear Editor:

While applying for a vanity callsign, I found the following in the FCC's instructions: "In accordance with the Debt Collection Improvement Act of 1996, you must provide your Taxpayer Identification Number (TIN)." Then, reading further, I found: "If you owe a past due debt to the federal government, the taxpayer identification number (such as your Social Security number) and other information you provide may also be disclosed to the Department of the Treasury, Financial Management Service, other federal agencies, and/or your employer to offset your salary, IRS tax refund, or other payments to collect that debt." Furthermore: "The FCC may also provide this information to these agencies through the matching of computer records when authorized."

I ceased filling out the form and will not apply for the vanity callsign I wanted. I feel that the FCC should not be in the bill collection business or gathering and disseminating information that has nothing to do with the regulation of radio transmissions.

When I went to their Website <www.fcc.gov/wtb/amateur> for more instructions, the first thing (and the scariest) that greeted my eyes was: "Fact Sheet — Registration of Social Security numbers in the Universal Licensing System for radio operators."

Not having a computer (I use a webTV), I couldn't download the details, but this is bothersome, to say the least.

Or is it just me?

KD7FJJ

Dear KD7FJJ:

No, it's not you, but it IS the doofus who isn't paying his or her dues that's to blame. I can't say that if I were in charge of the financial management of the U.S. government I wouldn't do similar. How should they handle this problem?

And let's face it, the FCC isn't the only federal agency put in this predicament. Sure, these tactics might turn off honest taxpayers — certainly all hams, CBers, and radio enthusiasts — who don't owe Uncle any money, but in all likelihood won't do much to get the majority of the scofflaws. For them, it's just a minor detour in the road.

Most of our federal government turns me off anyway (especially the Army, but you knew that), so I try to turn strange things like this around into a positive situation and laugh it off. If you're honest and don't owe Uncle any money (and chances are you don't, right?) — go ahead and sign the darn paperwork and get the vanity callsign!

Most folks pay their fair share to our federal government and fill out more forms than necessary. One way or another, if they want you, they've got you. Do we like it? Heck, no. But for me, it's a lot like going food shopping. I don't like that either, but I sure like those hamburgers and barbecued chicken!

Hello Jim, The Alarm Is Sounding!

Dear Editor:

I have been hearing about this ECPA business 'til I am sick of it! If we should listen to cell phones, or not! It is like so many other laws that are just not enforceable, not to mention stupid! I look at it like any other "special interest" motivated law! I couldn't give a rats behind about it. If I want to monitor there, I'm going to. They can't enforce this, so why continue to discuss it? It is a stupid law in the first place. Why not pass laws that at least make sense? If its on the air, occupying spectrum, I'm going to listen to it. They can just stuff it!! The law isn't worth the ink it is written with!!

Jim Kelly
North Carolina

Dear Jim:

Problem. Naturally, we agree with your assessment of many of our Nation's laws, that make us the butt of well-deserved jokes from our overseas friends, but as you undoubtedly know, the government did find a way to "enforce" this one by "cellular blocking" all receivers. Granted, you probably own a pre-ECPA radio or easily-modified scanner, but for folks new to the hobby of radio monitoring, it's a real problem.

I still believe that riding our drunk-with-power-legislators until they keel over is the only way to eventually make them realize they work for us, not the other way around. Fact is, unless we continue organized letter writing, calling our legislators and (like I did with Tauzin's communications director) hammering them repeatedly about their lies and cart-before-horse logic, it'll never end.

You *Can* Go Home Again

Dear Editor:

I just wanted to drop you a line and let you know how much I enjoy Bill Prices' humor in *Pop'Comm* each month. I have been a subscriber for a few years now and always look forward to his tales. But I have to say that he really outdid himself with "Hello, Mrs. Price-Magoo?" I guess the reason I enjoyed that piece so much is because I can relate to it.

My family and I moved here to Allentown, Pennsylvania from Maryland through a job transfer with AT&T in 1985 (Billy Joel be damned). It was difficult for a time having to leave the place where we grew up, but it worked out. Having to leave family and friends behind was the hardest part. My Dad passed away a few years ago but my Mom still lives back home in the house that I was raised in. She is 87 now, has had both knees replaced, her eyesight is failing along with her memory, but still keeps the house up as best she can. Her biggest obstacles in this hi-tech world are the CD player in her mini-stereo system and changing the time in the clock radio that we gave her as a gift a few years ago. I recite the directions for each to her from time to time over the phone but to no avail. When it comes time to change the time on the clock radio from EST to DST, I find it easier to drive the 165 miles back home to make the change rather than go through the directions by phone. Besides, she usually has one of my favorite meals prepared for me when I take a day to pay her a visit.

I'm telling you these things because, as I said, I can really relate to Bill's last column. When I read it I got such a chuckle out of it that I almost cried. But, at the same time, it also made me a bit sad. Here they are, the most precious people in our lives, having a rough time of it in a world that is going much too fast for them to be able to comprehend. And then it did bring a tear to my eyes. God bless them all, they truly deserve all the best that we can provide for them in the years that they have left with us.

Thanks for your time. I don't usually write to anyone to express my feelings about things like this but I felt that I had to share them with you. Take care and keep up the good work. Now, I'm going to give my Mom a call. ■

Regards,
Al Bauernschmidt, N3KPJ

Daze Of Future Past

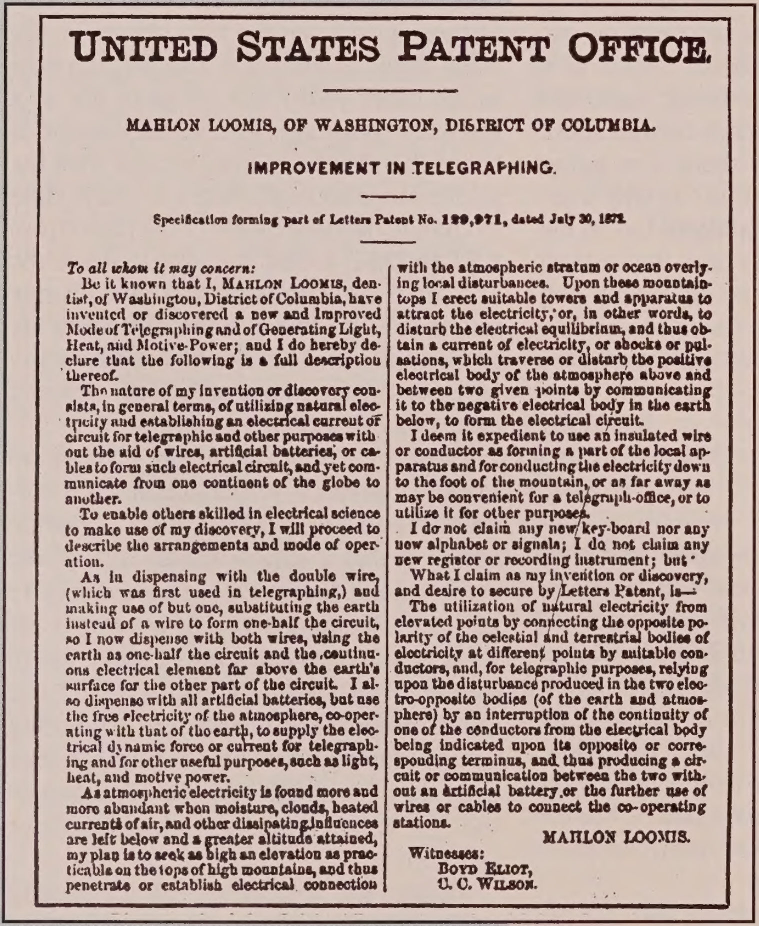
Puzzled Pundits Of 1900 Missed The Boat About 20th Century Wireless

By Alice Brannigan

This time of year, we see no shortage of predictions for the year ahead. When it's the start of a new century, there are guesses at what's going to happen in the forthcoming 100 years. We obtained a copy of the December 30, 1900, 16-page special Centennial section of *The Brooklyn Daily Eagle,* a now-defunct (but once influential and major) New York newspaper. This section was chock-full of predictions from noted authorities regarding what folks could expect in the coming Twentieth Century relative to science, technology, world politics, sports, the economy, recreation, social issues, religion, the arts, travel, education, medicine, and agriculture. We were curious about how they foresaw wireless in the coming century.

Strangely, only two specific mentions of wireless were to be found. The chief of the U.S. Weather Bureau predicted telephone service without wires between North America and Europe by 1925. He also envisioned the day when weather forecasters at 200 locations across the continent could exchange observations without wires. On a peripheral level, someone else envisioned the phonograph mated to the landline telephone in order to bring entertainment directly into the home. But that was more of an amazing forecast of 1990s Netcasting than any hint about radio broadcasting. In fact, the seers barely acknowledged wireless. We must assume *The Eagle's* experts reflected prevalent attitudes towards expectations of the new century. How was it possible they missed the boat about this amazing invention that had already been developed and was on the fringes of world success?

Yet, the same people seriously predicted the decline of baseball's popularity in the Twentieth Century, and that the dead would be brought back to life. They also forecast that by the year 2000, the borders of the U.S. would have been expanded to include all of Central America, South



UNITED STATES PATENT OFFICE.

MAHLON LOOMIS, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN TELEGRAPHING.

Specification forming part of Letters Patent No. 129,971, dated July 30, 1872.

To all whom it may concern:

Be it known that I, MAHLON LOOMIS, dentist, of Washington, District of Columbia, have invented or discovered a new and Improved Mode of Telegraphing and of Generating Light, Heat, and Motive-Power; and I do hereby declare that the following is a full description thereof.

The nature of my invention or discovery consists, in general terms, of utilizing natural electricity and establishing an electrical current or circuit for telegraphic and other purposes without the aid of wires, artificial batteries, or cables to form such electrical circuit, and yet communicate from one continent of the globe to another.

To enable others skilled in electrical science to make use of my discovery, I will proceed to describe the arrangements and mode of operation.

As in dispensing with the double wire, (which was first used in telegraphing,) and making use of but one, substituting the earth instead of a wire to form one-half the circuit, so I now dispense with both wires, using the earth as one-half the circuit and the continuous electrical element far above the earth's surface for the other part of the circuit. I also dispense with all artificial batteries, but use the free electricity of the atmosphere, co-operating with that of the earth, to supply the electrical dynamic force or current for telegraphing and for other useful purposes, such as light, heat, and motive power.

As atmospheric electricity is found more and more abundant when moisture, clouds, heated currents of air, and other dissipating influences are left below and a greater altitude attained, my plan is to seek as high an elevation as practicable on the tops of high mountains, and thus penetrate or establish electrical connection with the atmospheric stratum or ocean overlying local disturbances. Upon these mountain-tops I erect suitable towers and apparatus to attract the electricity, or, in other words, to disturb the electrical equilibrium, and thus obtain a current of electricity, or shocks or pulsations, which traverse or disturb the positive electrical body of the atmosphere above and between two given points by communicating it to the negative electrical body in the earth below, to form the electrical circuit.

I deem it expedient to use an insulated wire or conductor as forming a part of the local apparatus and for conducting the electricity down to the foot of the mountain, or as far away as may be convenient for a telegraph-office, or to utilize it for other purposes.

I do not claim any new key-board nor any new alphabet or signals; I do not claim any new register or recording instrument; but

What I claim as my invention or discovery, and desire to secure by Letters Patent, is—

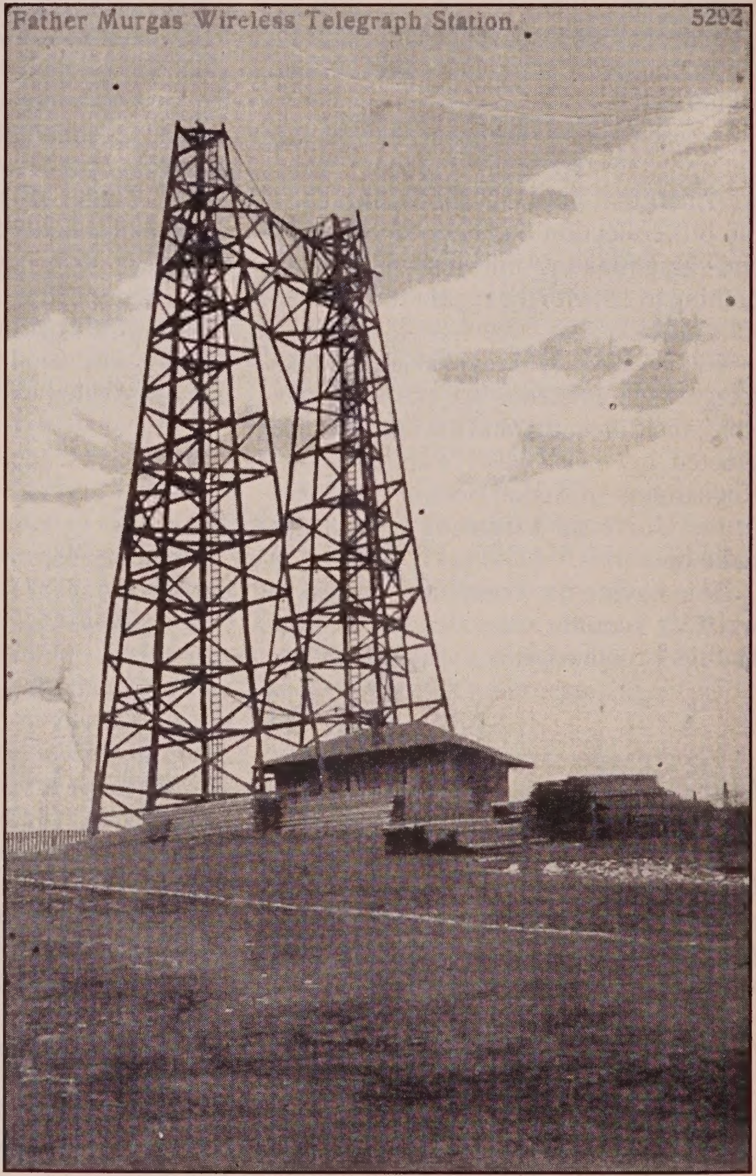
The utilization of natural electricity from elevated points by connecting the opposite polarity of the celestial and terrestrial bodies of electricity at different points by suitable conductors, and, for telegraphic purposes, relying upon the disturbance produced in the two electro-opposite bodies (of the earth and atmosphere) by an interruption of the continuity of one of the conductors from the electrical body being indicated upon its opposite or corresponding terminus, and thus producing a circuit or communication between the two without an artificial battery or the further use of wires or cables to connect the co-operating stations.

MAHLON LOOMIS.

Witnesses:
BOYD ELIOT,
U. C. WILSON.

↑ *The original patent for wireless issued in 1872 to Mahlon Loomis.*

Fr. Joseph Murgas, a wireless pioneer, established this telegraph station at Wilkes-Barre, Pennsylvania. He held numerous early wireless patents and was later declared by the court to be the inventor of several systems claimed by both Marconi and Fessenden. →



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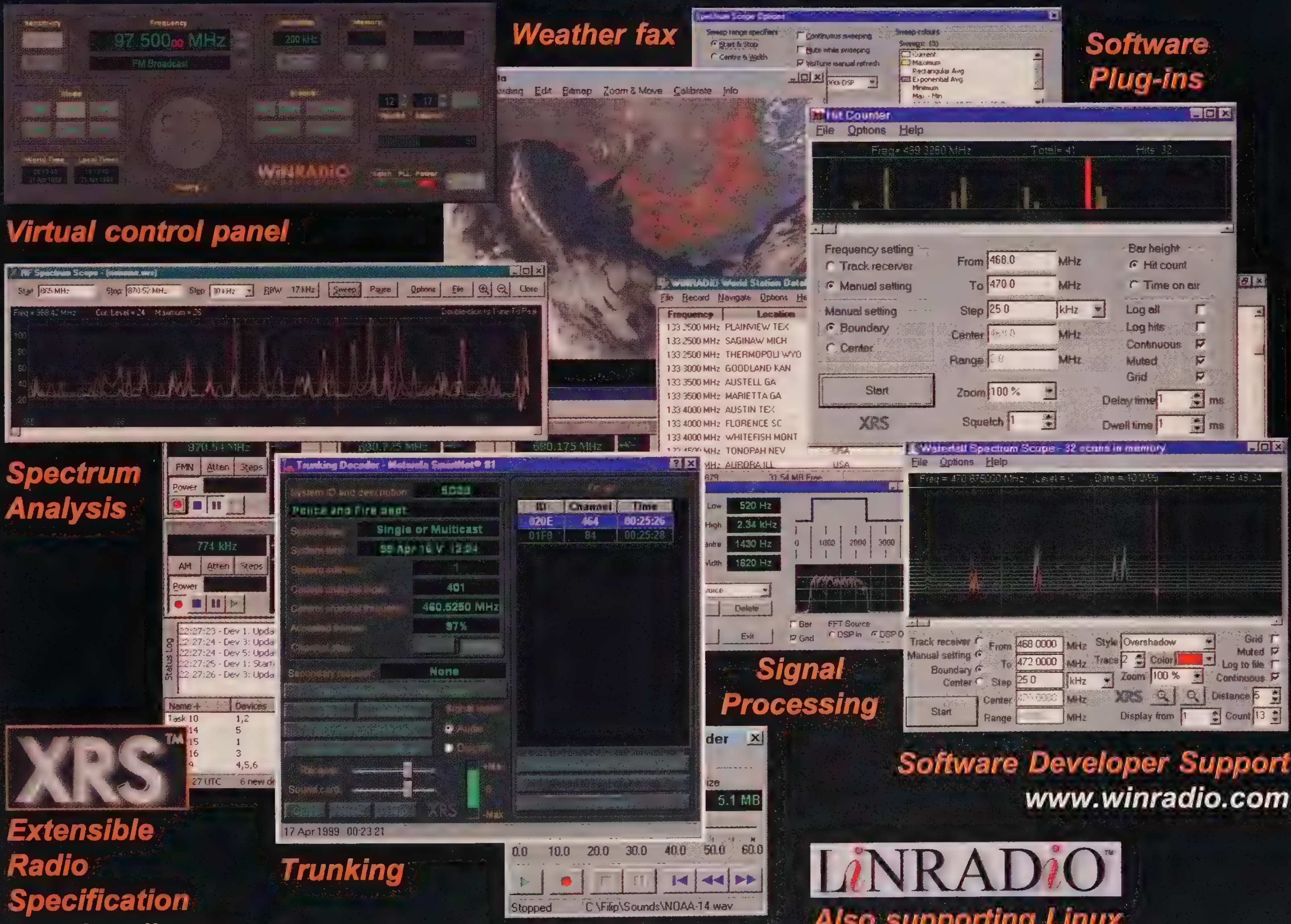
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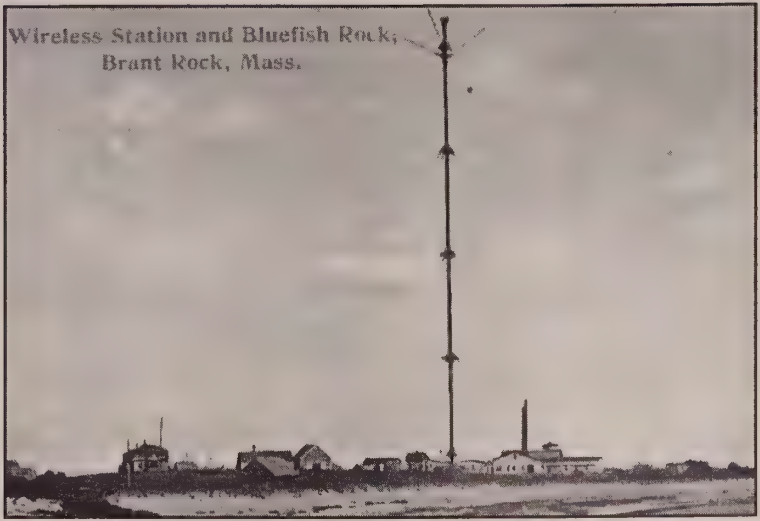
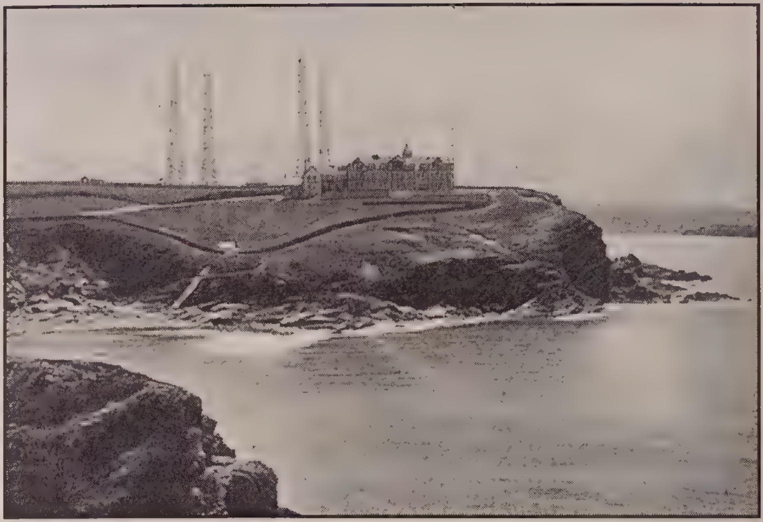


This wireless station was constructed by Reginald Fessenden in 1905 at Brant Rock, Massachusetts. It transmitted voice and telegraph.



Marconi's station at Poldhu, Cornwall, sent the first transatlantic wireless message in December, 1901.

America (except Brazil), and most of Canada!

Not Asleep At The Switch

Mind you, wireless was hardly unknown at the turn of the century. Prior to the end of 1900, various practical wireless transmission methods had been proposed, developed, and/or demonstrated by Nathan Stubblefield, Guglielmo Marconi, Father Joseph Murgas, Reginald Fessenden, Thomas Edison, Lee deForest, Amos Dolbear, William H. Ward, Mahlon Loomis, Heinrich Hertz, and others. Back in July of 1872, Loomis had already been issued the world's first patent (U.S. Patent 129,971) for a wireless telegraphy system. Moreover, John Trowbridge, a Harvard physicist of the 1890s, was suggesting wireless as a means of communicating with ships at sea. The signs for success were there!

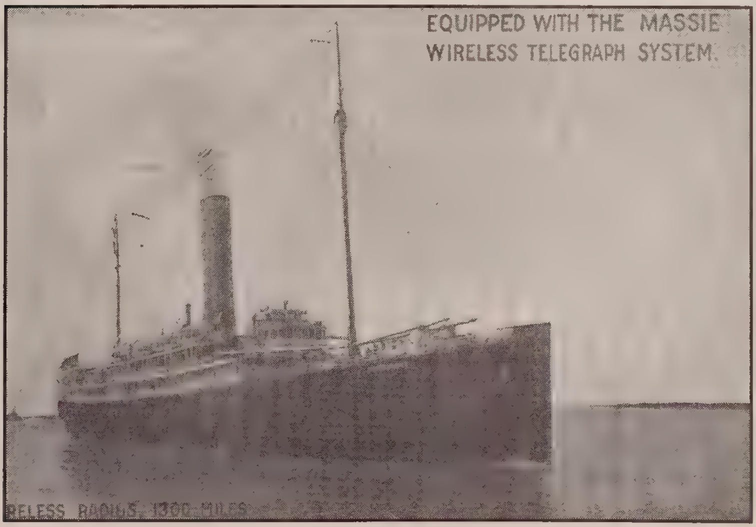
In 1898, Marconi decided to demonstrate his concept that wireless was a commercial product that could be merchandised to ocean-going vessels. Seeking financial backers for this idea, he temporarily outfitted the 554-ft. American Line luxury liner *S.S. Saint Paul* with his telegraph equipment. It was an impressive showing, causing the German liner *Kaiser Wilhelm der Grosse* to establish the first permanent Marconi ship installation in 1900.

In 1899, at Babylon, Long Island, New York, Marconi built his company's first American wireless spark telegraph station for communicating with ships and the nearby Fire Island Lighthouse. This station used the callsign BA, and went into full operation in 1901.

Before the end of the 19th Century, wireless had first proven itself to be a lifesaving tool. On March 3, 1899, the *S.S. R.F. Matthews* ran into the East Godwin Lightship (off the English coast). Wireless telegraphy summoned lifeboats from shore.

Father John Murgas had worked since 1886 developing his rotary spark gap wireless system, and applied for a U.S. Patent in 1900. In 1904, the Patent Office issued the first two of his 17 wireless patents. Shortly thereafter, he erected his wireless station at Wilkes-Barre, Pennsylvania. Years later, the U.S. Supreme Court ruled that Murgas' patented discoveries proved *him* to be the original inventor of wireless transmission systems claimed by both Marconi and Fessenden.

In November of 1900, Fessenden strung a mile of wire as an antenna at



By 1906, hundreds of ocean-going vessels were wireless-equipped, and made it a point of promoting this feature.

Gugliemo Marconi, wireless pioneer, as he looked in 1901.

Marconi's first American coastal telegraph station was in Babylon, N.Y. It went into operation in 1901. (Courtesy Alexander Durant, N.Y.)

The wireless station at Siasconset, Massachusetts, received one of the calls for assistance from the R.M.S. Republic.

Cobb Island, Maryland, and first transmitted his voice. Though the speech was highly distorted, the signal could be copied more than a mile away.

The New Century

Rescues at sea continued, and on January 1, 1901, the *S.S. Princess Clementine* sent a wireless message to report the sailing bark *Midora* waterlogged. A tugboat was dispatched to pick up the survivors. In 1901, *The New York Herald* newspaper opened coastal station "SC" (later known as MSC, then WSC) at Siasconset, Massachusetts. Its first message was from the *S.S. Lucania*. On December 12th of that year, Marconi's station in Cornwall, United Kingdom, sent the first transatlantic wireless signal, the code letter "S," to his station at Newfoundland, Canada.

The general public finally started taking notice of the potentials of wireless as they realized it could be more than a hobbyist's toy. In Philadelphia, at about that time, Joseph Horn and Frank Hardart opened up their self-service, coin-operated robot-like cafeteria (later known as the *Automat*, where you dropped a coin in the slot and turned a handle to obtain the food). The blasé *Evening Bulletin* newspaper sniffed, "The horseless carriage, the wireless telephone, and the playerless piano have been surpassed."

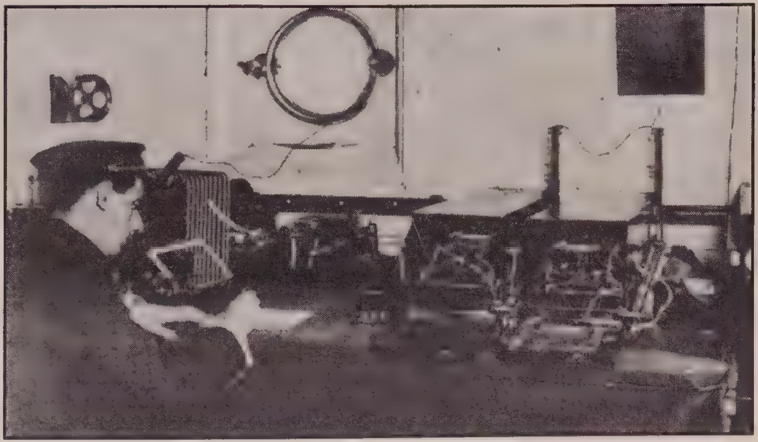
The March Of Technology

By 1904, the United Fruit Company began constructing an extensive network of wireless stations throughout Central America and the Caribbean in order to coordinate banana shipments.

In 1905, the National Electric Signaling Co. (NES), which was created to compete with Marconi, erected a 420-ft. hollow metal antenna mast on the beach at Brant Rock, Massachusetts. The hope was to use it as a part of a 15-kW spark telegraph station to communicate with the company's duplicate station located in Scotland. On December 24, 1906, Reginald Fessenden transmitted a program of voice and operatic music via the Brant Rock station, entertaining ship operators for many miles at sea. It was said to be the first actual radio broadcast. The station had established two-way transatlantic comms via telegraphic spark earlier that year.

By 1906, many ships had installed wireless telegraph equipment, not only for emergency use, but also for weather data, press information, time signals, and radiograms. It was a haphazard and informal situation as ship and coastal stations created their own unofficial callsigns in the absence of international agreements governing such matters. There were many callsign duplications until a few years later when the world's nations agreed upon a uniform wireless identification system.

Curiously, ocean-going vessels had visual (signal flag) identification letters officially assigned as early as 1895, yet they were never later used as wireless callsigns. American vessel visual identifications had four letters beginning with K. For instance, in 1895, the American *S.S. Olivette* had the visual signal letters KDQR, but in 1906 (when wireless was



A typical ship's radio room back in 1901. This is the Liner S.S. Philadelphia. *Marconi had personally installed the equipment and made the first trip to supervise its operation.*

installed aboard) the ship used the callsign "KW." The American *S.S. Seminole* had the visual identification letters KDNS in 1895, but its early wireless callsign was "VJ." In 1911, when our government started issuing wireless callsigns, they consisted of three letters beginning with either K or W.

Father Murgas demonstrated his system of easily understood wireless speech transmission in 1907.

Wireless Enters The Big Time

In 1909, Dr. Charles Herrold began a regular schedule of broadcasts from San Jose, California. Years later, this would evolve into commercial radio station KQW.

The single event that dramatized and ensured rapid worldwide popularity of wireless as a safety tool took place a scant eight years after *The Brooklyn Daily Eagle's* myopic mavens all but completely ignored wireless. It was the first time wireless had been used in connection with a shipwreck in American waters. This demonstration of the lifesaving benefits of wireless did wonders for the general public's acceptance of this technology.

That incident occurred on January 25, 1909, when the Italian steamship *Florida* collided at 6 a.m. in dense fog with the White Star Liner *R.M.S. Republic* near the Nantucket lightship, off the Massachusetts coast. *The Republic* was a 585-ft. luxury liner that normally carried as many as 2,000 passengers. Both vessels had been off course. The impact severely damaged both ships, with water pouring into the *Republic* via a huge gash in her port side. Thirty feet of the *Florida's* bow was crushed.

Jack Binns, *Republic's* Marconi radio operator, furiously sent out CQD distress signals. The *Florida* heard the signal but couldn't find the other ship in the fog. Blasts of the *Republic's* fog horn finally brought the *Florida* to *Republic's* aid. Wireless signals brought the White Star Liner *Baltic* to the scene to take survivors aboard. The American Revenue Cutter *Gresham* also showed up and attempted to take the stricken ship in tow, though the *Republic* ultimately sank 50 miles south of Nantucket while on the way to safe harbor. The vessel sank with $3.265 million in gold coins aboard (presently worth as much as $1.6 billion), plus a fortune in passengers' cash and jewelry. Salvage rights are still pending! This wreck remains shrouded in mystery and intrigue. For more information, check out: <www.rms-republic.com>.

The ill-fated R.M.S. Republic *sank off the Massachusetts coast in 1909. The passengers were rescued, thanks to wireless. But there are more than a billion dollars worth of gold coins still in her cargo hold awaiting salvage.*

Binns had relentlessly tapped out more than 200 messages during the event, also seeking assistance from the Marconi coastal station at Siasconset, Massachusetts. He remained at his telegraph key day and night, giving up only when the ship's storage batteries went dead. Wireless had saved 1,650 lives. Only six souls had been lost in this disaster.

Newspaper accounts of the dramatic rescue, made possible by wireless, captured international headlines. Binns was hailed in the media as a national hero. Wireless was heralded around the world as a lifesaving miracle. Nothing could stop wireless at that point, and the dramatic *R.M.S. Titanic* disaster only three years later further publicized and reinforced its importance. Commercial broadcasting would become a sensation nine short years after the *Titanic*, and (as the saying goes) the rest is history.

There's even a touch of irony here. Was it only a bizarre coincidence that maritime telegraphy came full circle within a month of the 100th anniversary of the *R.F. Matthews* rescue? On February 1, 1999, telegraphy (CW) was officially phased out for use at sea. It has now been completely replaced by DMDSS, a satellite-based system.

We don't fully understand how *The Brooklyn Daily Eagle's* Nineteenth Century pundits failed to predict the imminent worldwide uses of wireless for safety, entertainment, news, commercial, and military purposes. Under the circumstances, you'd have thought the signs were obvious.

Oddly enough, radio had been named and accurately predicted 1,800 years ago! In the Hebrew *Talmud* (Yoma, fol. 21), it states, "Radio kol sheholekh misaph hapalm vuad sophoe." This translates as, "Radio, a voice that goes from one end of the world to the other." It simply took mankind 1,700 years to develop the hardware!

Regardless of the Nineteenth Century seers who ignored this long-awaited development, radio did happen anyway. We can now reflect upon a century's worth of fascinating wireless memories. Of course, this month, all we had room to mention here were just a few notable highlights from those early years.

Your input to these pages is always welcomed in the form of old time radio QSLs (good photocopies are OK), station photos, picture postcards, station directories, column ideas, and anecdotes. Our snail mail address is: Alice Brannigan, *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801. Our direct E-mail address is: <Radioville@juno.com>. Please be with us here again next time. ■

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DRAKE

radio resources

Interesting Thoughts And Ideas For Enjoying The Hobby

Narrow Band Photo Transmissions

Sending live television pictures over the airwaves requires a chunk of bandwidth about 6 MHz wide. Except for commercial TV Channels 2 through 13, and the UHF TV allocations, there are no other 6 MHz slots available on VHF or UHF for sending live signals over any great distances.

Yes, there *are* the TV "rabbits" at 900 MHz, and 2.4 GHz, but these are intended for ultra short-range installations where you might get 500 feet separation.

Licensed amateur radio operators have several 6 MHz wide "channels" for their fast-scan television image and voice broadcasting. "Most amateur television is performed in the 420-MHz to 440-MHz, 1240-MHz to 1294-MHz, and 902-MHz to 928-MHz bands," comments the American Radio Relay League. The ham radio fast-scan television is just like commercial television; the video is amplitude modulated, and the audio is frequency modulated. Each video frame consists of 525 horizontal lines with 30 frames transmitted each second.

Fast-scan television, with its 6 MHz wide bandwidth, requires relatively high power levels to propagate up to a normal range of 100 miles. Under ideal tropospheric ducting weather conditions, it is sometimes possible to achieve further distances with the 6-MHz wide live TV signals. Just a few weeks ago, I was able to receive amateur fast-scan television from Hawaii to the Los Angeles area via the tropospheric ducting weather phenomena. This is a record-breaking reception event! But the conditions only last for a couple of days, so getting long-range TV reception via tropospheric ducting is somewhat short-lived.

Getting TV reception on Channels 2 through 6 with an outside aerial via sporadic-E is another short-lived phenomena. Sporadic-E television reception can sometimes last for up to an hour, but rarely more than two or three hours.

Six MHz wide FM/AM television signals are somewhat elusive to ham radio operators. If the signal strength on UHF FM voice channels between the two ham operators wanting to exchange live television pictures is less than "full tilt," it is unlikely either ham will receive the other person's video with any clarity. If you are having trouble communicating on two handhelds between you and the other TV operator, forget about trying to see any picture; at 6 MHz wide, the video just won't make it when handheld-to-handheld comms are not at full strength.

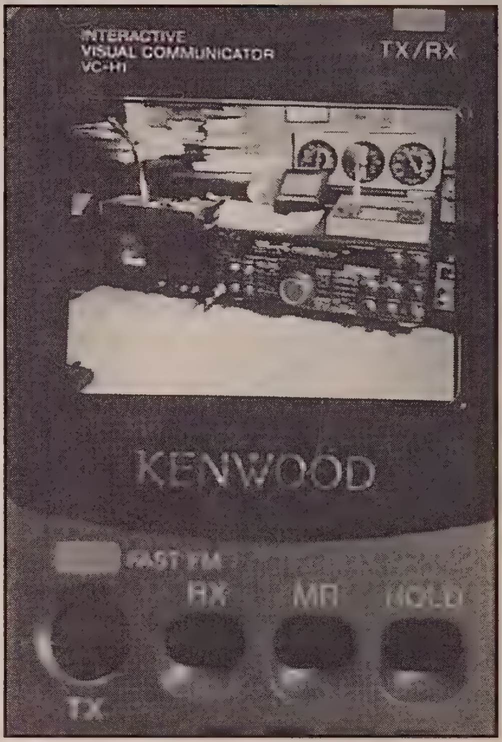
Ultimately, we'll see digital television techniques and high-definition digital techniques reduce the amount of bandwidth necessary for live pictures to a relatively inexpensive home receiver, but today, only a few areas of the country are going high-definition digital. Pulling digital TV signals off of the satellites is going to cost you about 30 bucks a month for just the basic service.

Narrow Band Still Pictures

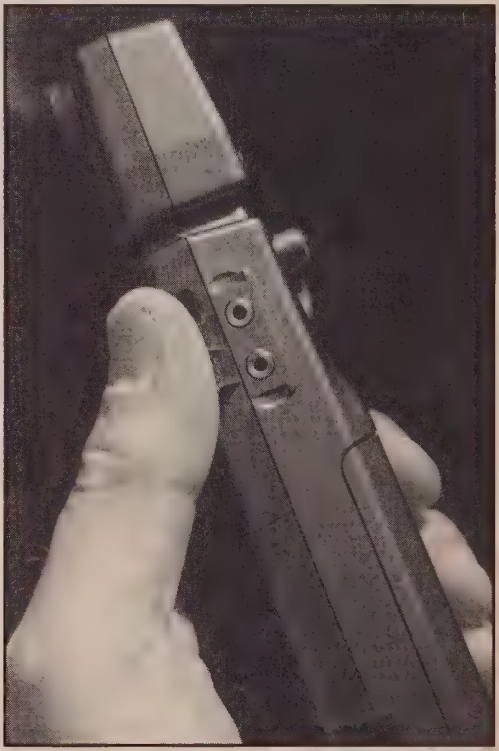
For years, ham radio operators have been sending still pictures over the airwaves, scrunched into a meager 3 kHz bandwidth. Instead of live television at 30 pictures-a-second, slow-scan photos take eight seconds to send one black-and-white picture. And resolution is less in that eight seconds — instead of 525 lines like regular TV, a typical slow-scan TV picture is composed of 120 lines.

Video is sent as a frequency modulated subcarrier between 1500 Hz for black, and 2300 Hz for white. The horizontal and vertical sync signals are sent as bursts of 1200 Hz tones. Ask any old-time ham about Robot equipment, and they'll launch into memoryville about the fascination of seeing imagines come in over war surplus phosphorous cathode ray tube displays that glowed an eerie orange in the night.

The enterprising hams then developed *color* slow-scan signals, and then dramatically increased the color resolution to send some surprisingly detailed color photos over the airwaves, *still* occupying less bandwidth than 3 kHz. In fact, if you have a shortwave receiver, switch to upper sideband and tune in the sounds of



Sending a picture over the airwaves with the Kenwood VC-H1.



Side view of Kenwood's Visual Communicator.

BY GORDON WEST, WB6NOA

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high-definition, slow-scan, color television at 14.230 almost 24 hours-a-day. The sound you hear over high frequency stays within 3-kHz bandwidth, and a full-color, high-definition received picture takes about a minute to "decode" and display on the screen.

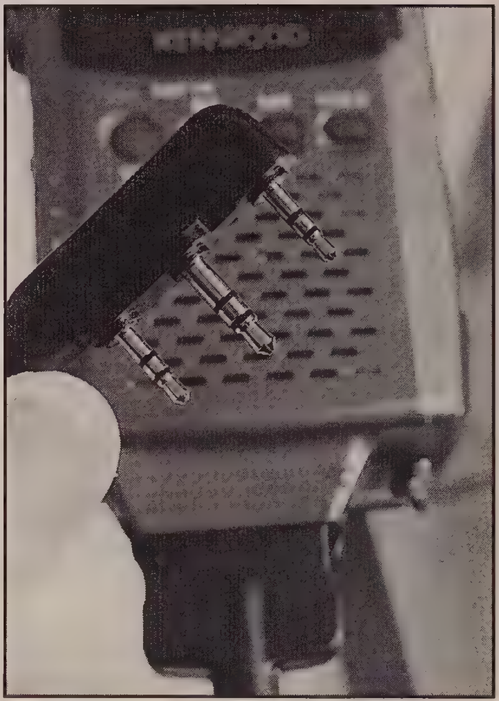
Up on VHF and UHF, permissible bandwidth may be as much as 10 kHz wide (+/- 5 kHz), allowing you to speed up the still-photo, on-the-air transfer of a high-definition, full-color shot in about 15 seconds at 9600 BPS. On VHF and UHF, this means you could exchange several sets of crystal-clear color pictures in less than a minute!

But what does it take to do it? If you asked me this question about two years ago, I'd say it would probably take your home computer and a lot of other peripherals to send and receive the fast-scan television photos. But if you ask me today, it can be done with a handheld photo LCD color imager and top-mounted CCD camera. Two prominent companies are presently marketing similar-looking, but entirely different, portable imaging equipment:

- Kenwood Corporation
  Long Beach, California
  310-639-4200 and

- AOR USA
  Torrance, California
  310-787-8615

The Kenwood product is called the VC-H1 interactive visual communicator, and it is designed with patch cables to work specifically with Kenwood handheld radios for VHF and UHF, selected Kenwood VHF/UHF mobile radios, and the Kenwood high-frequency TS-570 and TS-870 worldwide transceivers with the optional connector kit. I am also told that several other brands of ham handhelds will also work with the lightweight, battery-operated, visual communicator.



The plug that goes from the Communicator into the side of the Kenwood D7 handheld two-meter VHF unit.

AOR Trans-View AR300 and AR570 are designed to work with ANY type of radio or telephone lines, including cellular phones!

Taka of AOR explains that their AR300 can be cabled up to work with almost type of handheld VHF/UHF, for microwave equipment. "You can send high-quality color images over normal frequencies, using ordinary handheld voice-type radios," explains Taka, indicating their AR300 also functions as a normal speaker and microphone system, too. The set-up is like a push-to-talk handheld, but the AR300 you are pushing, talking, and listening to is actually attached to a handheld on your hip.

The receiving end of the circuit could be a base station that is hooked up to another AR300, an accessory larger video monitor or computer, and the AR570 base adapter. The AOR AR570 can also receive images from other image recording devices, such as a camcorder or digital camera.

Both the Kenwood and the AOR handheld imaging devices each use their own proprietary way of signaling on VHF and UHF. Stay with one particular brand as you build your system, because even though the portable imaging devices look

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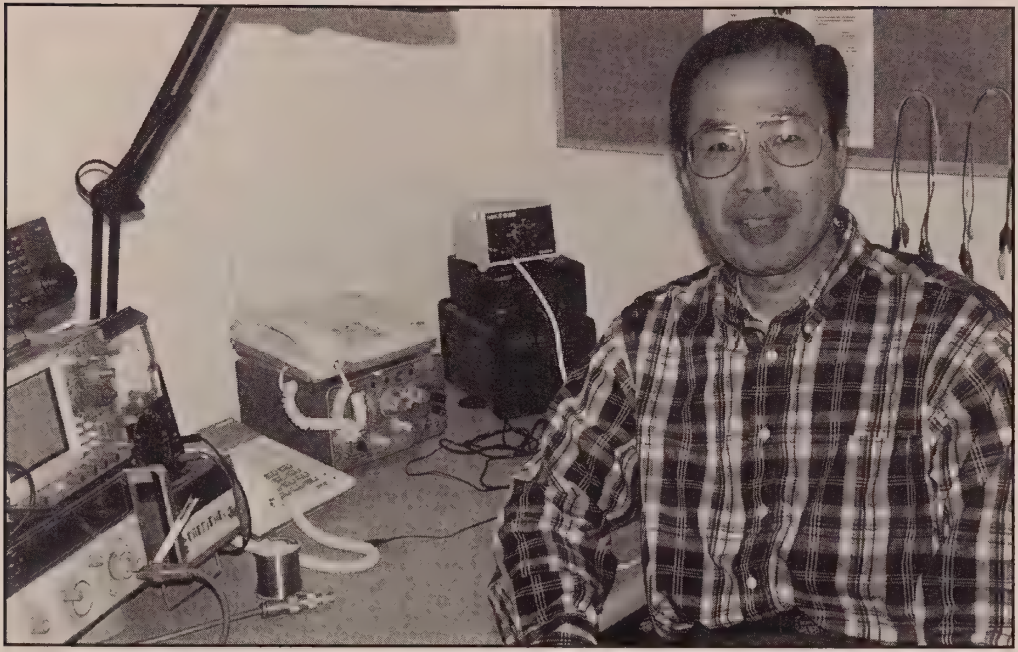

Taka, WB6Z, Vice President of AOR, describes how the AOR Visual Communicator works. AOR has an excellent illustration of their Trans View system on their Website at <http://aorusa.com/visual.html>.

similar, they are not necessarily compatible over the air.

The AOR unit was recently tested by the Los Angeles Police Department on Motorola Saber equipment, and crime scenes could easily be viewed back at the watch commander's desk. The AOR transmits good resolution color pictures in less than half a minute, and a high-resolution color photo in just over one minute. Black-and-white still images could be transmitted with good resolution in 18 seconds, and high resolution in half a minute. The maximum bandwidth is 2.4 kHz on the AOR 300.

On the Kenwood VC-H1, still image modes may include Robot, Scottie, Martin, and fast FM. The fast FM offers VHF and UHF operators an under-15-second way to exchange color images with superb clarity, yet not exceeding bandwidth limitations to normal FM voice channels.

And, of course, both units have their own color LCD screen, swivel top-mounted camera, photo memory storage, and a host of other features just waiting to get plugged into your present handheld or base radio system.

Kenwood initially previewed this equipment for amateur radio operators. AOR, on the other hand, is targeting the commercial radio market.

About the only "surprise" is when you actually send a picture over the airwaves on VHF and UHF frequencies. Many times other channel users will have absolutely no idea what that strange sound is coming over their speaker system. I would suggest you inform them ahead of time that you are about ready to send a still picture, and don't interrupt the picture transfer progress. Any key-down during the process leads to streaks in the received image.

If you're looking for something new to do on the airwaves, double-check that the frequency you have picked is compatible with digital imaging, and then begin to explore all of the things you can do by sending still pictures on narrow-band channels over two-way radio. ■

Kenwood Video Sender Video Loan Offer

Kenwood Corporation offers an instructional video on the VC-H1, available for loan to amateur radio clubs and organizations. They may be loaned, for free, for 60 days. For more about video communicating, along with selected Kenwood products that enhance the operation of the Kenwood VC-H1, contact Kenwood Communications Corporation, Amateur Video Loan Program, P.O. Box 22745, Long Beach, California 90801-5745, or phone 310-537-8235.

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CIRCLE 60 ON READER SERVICE CARD

the radio connection

A Look Behind The Dials

A Christmas Story, And A Message For The Season!

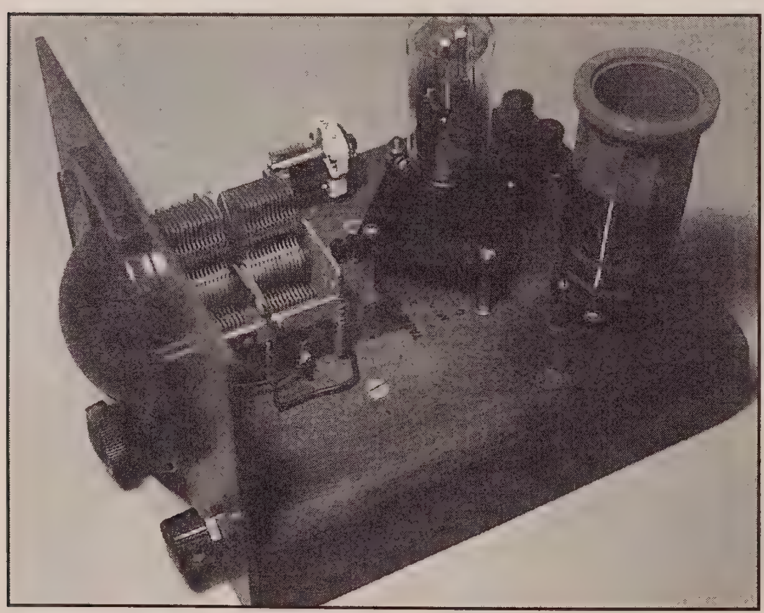
Finding a seasonal theme to kick off the December “Radio Connection” is always an enjoyable challenge! Last year, I stumbled upon this Christmas story posted on the Rec.Antique.Phono+ Radio newsgroup. I’ve passed it around, and it never fails to bring a tear or two to those who read it. I am indebted to both Terry and Peppy for allowing me to share this heartwarming *tail* of friendship with my readers.

“This post is not about repairing, selling, buying, trading, or fixing up old radios. It is a post about the comfort an old radio has brought to an old and very dear friend of mine. I occasionally rearrange my radios in an effort to change the decor of the various rooms in my house. At Christmastime, I do a major shift in both the formal living room and the den in order to accommodate the seasonal decorations — including the tree. This year I learned a lesson too easy in the forgetting. That is, that there are others in my family who also enjoy ‘my’ radios.”

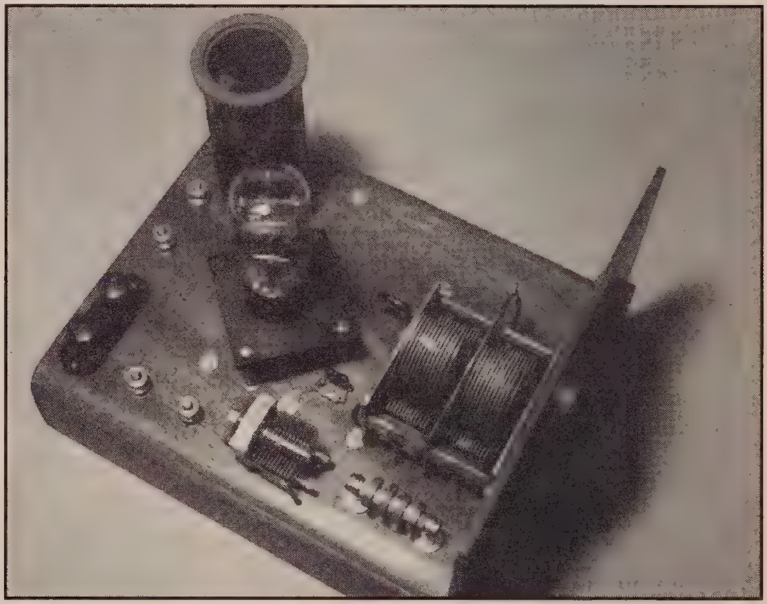
“Radio” Terry and Peppy in front of the E. H. Scott console. A few early battery sets, cone, and horn speakers can be seen.

“Peppy, I call him Peppy thought that’s not his given name, has been a good friend of mine for years. We have spent many an hour curled up in front of one radio or the other just enjoying the music and each other’s company. Peppy especially likes the E. H. Scott in the formal living room, which incidentally is located exactly where the Christmas tree goes. Its large cabinet allows for plenty of room to sit in front and still hear it. Its magnificent sound would lull both he and I into a trance as we drifted off — in our minds — to some far off tropical island or foreign shore. This past year has been no different. So, I was a little surprised when moving time came around this past weekend, in order to set up the Christmas tree in the formal living room, and Peppy protested. We had been through this routine many times before. He doesn’t shout a lot, but when he does . . . ! Suffice it to say, I left the Scott where it was and rearranged everything else! Sure enough, last night he made his way over to the base of ‘his’ radio and proceeded to fall fast asleep. I didn’t have the heart to wake him, so I left the radio on all night, lowering the volume so as not to disturb anyone else’s sleep.”

“This morning he was still there, in front of the radio, when I came down-



A side view of Michael’s receiver. The set uses a heavy wood cigar box for a foundation, and the wood cigar separator as the front panel. Note the craftsmanship! Flat head machine screws are carefully recessed into the wooden platform, and the set has a very clean and sanitary appearance.



Looking at the other side, we can see the RF choke, the antenna trimmer capacitor, and the 864 tube which has been rebased for use as a WD-11 substitute. Michael’s WD-11 tube socket is also “homebrew!” There is an interesting blend of components dating from the ’20s to the present.

BY PETER J. BERTINI <RadioConnection@juno.com>

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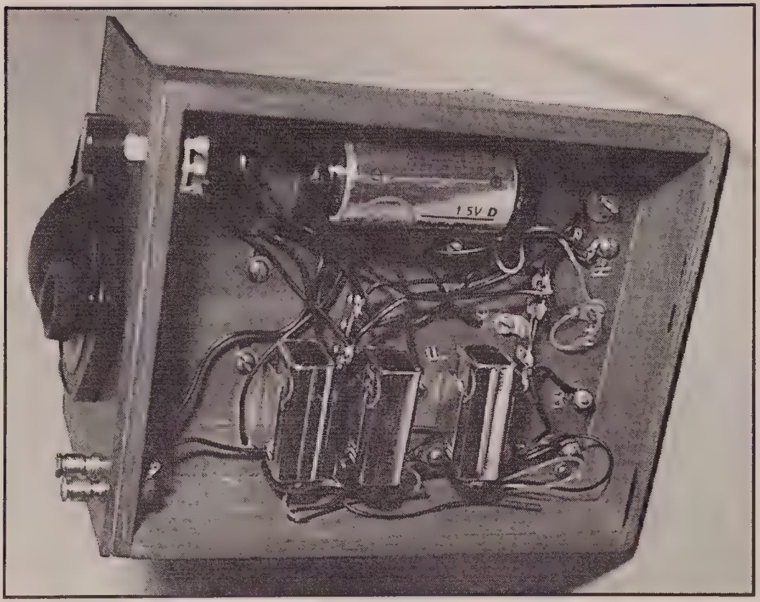
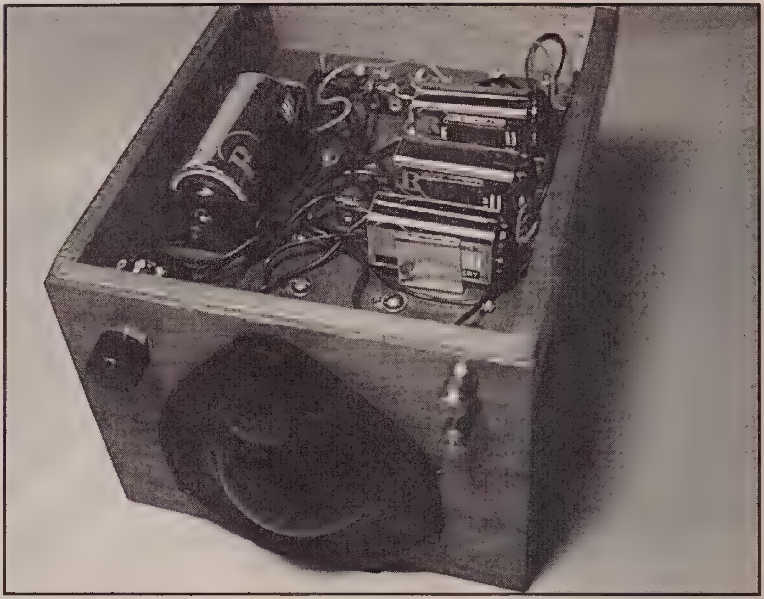


The batteries are hidden beneath the receiver using RadioShack holders and battery clips for mounting and connections. An external power source can be attached to the binding posts along the rear edge of the receiver. Note the regeneration control mounted under the chassis.



This oblique view of the receiver shows some details of the front panel. The metal binding posts are for the headphones. The large main tuning vernier dial and knob adjustment for the regeneration control are also visible.

stairs. I woke him and we had breakfast together and I left for work. During my commute, I realized that I was not the only one who took more than comfort from these old radios. Peppy does too. This morning, I also realized another reason why he slept there: safety. It was someplace warm and familiar."

"Peppy you see, is my dog, and he went blind this past summer. That radio, that we share, now is a beacon to him in a room full of obstacles. Its sound directs him to someplace safe — and where I'll be! He didn't want me to move it and have his safety breached. A lesson worth remembering — safety, friendship, and mutual respect are always important."

Happy Holidays
Terry

Terry, Peppy — may you both enjoy that Scott for many more Christmases. Terry is Terry Dowling, of Ashland, Virginia.

Our First Winner!

A tip'o'the'hat and congrats to Michael McArdell of Brockton, Massachusetts! Michael has the honor of being the first winning submission in the "Boy's First Receiver" contest. Here is Michael's letter and his prize winning photos!

"I am not very good at writing, but, I'll do my best. This radio is something I've been interested in building for a long time. I purchased the parts at flea markets and yard sales for many years, knowing someday I would use them. I started making a crystal set about five years ago, then I became ill, and wanted to do more for a few years. I was getting back to normal when your magazine came out with the radio project in the July 1999 issue! This is the first issue I received since subscribing; what a surprise! I subscribed because I have a scanner and a shortwave radio."

"I went to work when the August issue arrived. The tube is an 864 that has been converted (rebased) to a WD11; it is known as a WD11B. I bought a couple a few years ago 'in case.' The socket is homemade as the WD11 has a different pin-set than is usually found. *(ed. Note, the WD11 uses one large and three small pins.)* I had two blank coil forms; so I wound one for the BCB and other per the SW1 directions. These blanks were 20% larger than yours, so I reduced the amount of turns by 20%."

"The breadboard is a cigar box lower half. The face board is a cigar layer separator. It worked fine the first time. It picks up the Boston stations for about 75 miles and the local stations hurt the ears. I use Brandes Superior Headphones. It took me about two weeks to build. My aerial is wire on the railing in my apartment building and the ground is to the cold water pipes."

"I was amazed when it worked! My wife still doesn't believe it!"

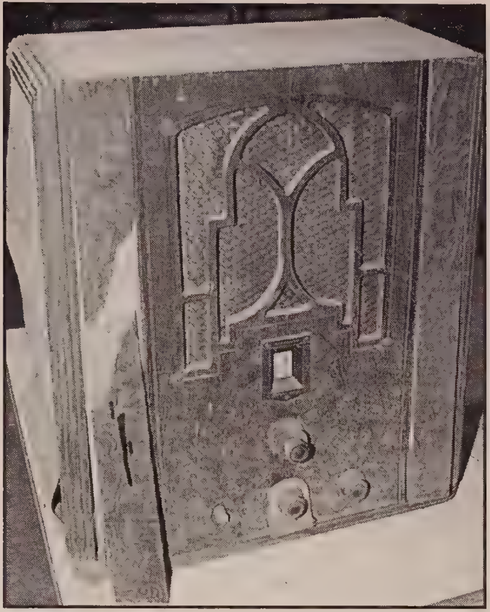
Thank you,
Michael McArdell

Thank you, Michael, for a very nice letter and the photos. I hope the readers can see the details of your handiwork in the photos you sent. The little radio is gorgeous, and your workmanship is superb! I can see how it took two weeks to assemble. Hiding the batteries under the cigar box base is an excellent idea; and something others might want to emulate in their project. Building a socket for the WD11 is very innovative as very few sets used that tube, most notably the Westinghouse Aeriola Senior and the RCA Radiola III. We are pleased to have you as our first winner in the contest, and I hope you enjoy *Pop'Comm* for many more years!

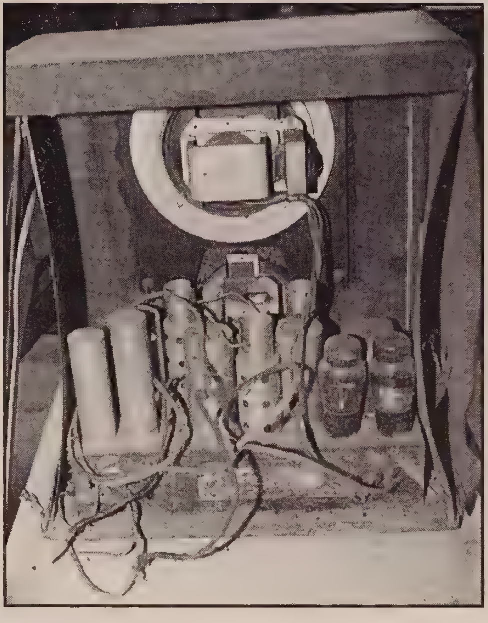
A few others have promised photos, and hopefully we will have more entries to share with you in the next few months. I am still hoping to hear from some youngsters who have tackled the "Boy's First Receiver." If you haven't finished your set, or haven't had time to do the photos, you still have some time to enter the contest. The remaining four subscriptions will be awarded on the basis of your set's uniqueness, interesting anecdotes regarding building the set, and the results you've had using it, and of course, extra points for youngsters who have been motivated at trying their hand at building a radio receiver! I will use all photos regardless if the submission is a winner or not!

AC Power Supply Progress

I know it has been a long time coming, but I see light at the end of the tunnel! I've just received the latest catalog from Marlin P. Jones, and viola! We have a source of inexpensive 120-to-12 volt cen-



Front of the American Bosch tombstone. Notice how the oak burl veneer has lifted, and broken away from the front panel. Notice the warped side panel.



The rear view tells all. The sides are completely destroyed from decades of moisture. The chassis is coated with dirt, and the chassis side aprons are rusted through.

ter-tapped transformers. The AC supply I am planning will use two of these, and Marlin has them for under $3 each. I faxed an order in this afternoon so I hope to have the transformers in hand in a few days. I am trying to keep the entire cost under $20. You can order a catalog from the address and phone number shown in the Radio Supply Resources box for this column. If you are interested in building the supply, you might want to have the catalog on hand before the plans are published in either the January or February column.

A "Universal" Power Supply

Last month, I mentioned some reservations about designing a power supply just for the "Boy's First Receiver," but upon further contemplation, I now realize the supply can also be used for future projects! The supply will provide 6 and 12 volts AC for cathode heated tubes, and also will deliver DC for low-voltage battery tubes. The high voltage DC output will have taps for various supply voltages from about 140 down to 18 volts. As you can imagine, this supply will open the door for quite a few interesting projects. I am always open for suggestions for future projects; jot down some suggestions, or E-mail your project ideas.

Tales Of An American Bosch

Connecticut has quite a few mill towns that date back to the 1800s. Generations of families often live in one home or neighborhood for decades. These towns are fertile hunting grounds for locating old radios that have been stored in cellars, attics, or closets for years. A few years back, I happened upon a tag sale in a small town named Windsor Locks near the Connecticut River. It derives its name from the "locks," which are part of the canal system used to bypass an earlier dam on the river.

Back to the tag sale. It looked promising. An older gentleman was tending the goods at an older brick two-story house. A "For Sale" sign was also posted in the front yard. I stopped. I asked the gentleman my standard query for such events. "Any old radios for sale?" He considered his answer. "Does condition matter?" I felt an immediate sinking feeling in my stomach, but I had gone this far. He disappeared down the cellar hatchway and returned with the relic shown in the photos. Most early New England homes have earthen floor cellars, and either cement or stone foundations. This poor set had obviously sat on a damp floor for many, many years. As the cement walls decomposed, a thick layer of sand was deposited on the chassis. The sides and all of the veneers were loose, and the plywoods were delaminated. It was one of the saddest looking radios I have ever seen. At best, a parts set or junker.

I offered five bucks (just for the tubes and to justify my time) and the old gent agreed, but first had to consult with the "wife" before agreeing to my price. This

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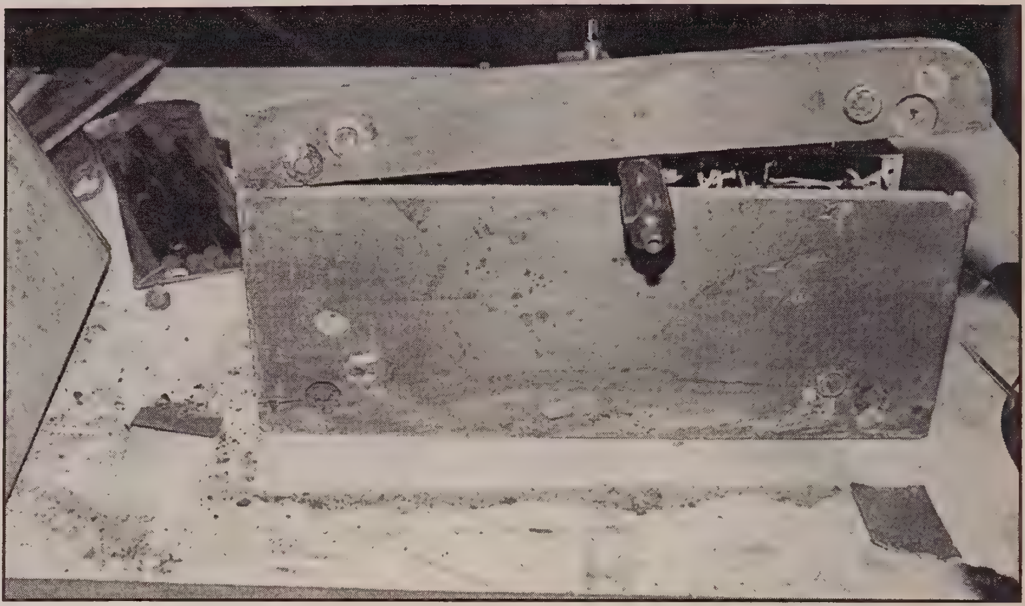
• An apology to "Play Things of Past" for my listing them as "Playthings of The Past" in our previous column!



The baseboard is rotted and shows signs of worm damage. It has also split into two sections. The board is extremely soft in areas.

was not good. She informed me the tubes in the radio were worth at least $15, and that "you can't get them anymore." Now, I want you to understand I have a will of steel, and can easily walk (or drive away) from such a ridiculously priced relic. Indeed, I drove at *least* five miles before turning around and paying the king's ransom for the little radio. Hey, there was just something about that radio! I could swear it was pleading with me to take it home.

Ignoring my wife's and son's chortles, I promptly brought my prize into the cellar workshop for appraisal. Close examination and dissection revealed numerous problems. First the veneer. The side panels on the old tombstone had completely delaminated. Sections of veneer were missing, and no amount of regluing would repair the damage. The front panel faired better. The top panel was in the same condition as the sides. While all of the veneer was loose, it was all still there. The burled oak strips on either side of the front panel would be nearly impossible to replace. The pillars that supported the panel sections were salvageable. It must have been a grand looking little tombstone in its day, but you wouldn't think so looking at it now.

The baseboard is soft pine (or a very, very punky hardwood). It had dry rot and wood worm damage, and had also developed a split across the entire length. Removing the chassis was easy — the rust had eaten away sections of the chassis sides and the screws no longer held it in place. All the tubes were there, and none appeared broken. Further investigation showed the grille cloth was still solid with no dry rot, and the speaker cone appeared to move freely and had no tears or holes. The transformer, and other ferrous objects, all had serious rust problems. I carefully disassembled the cabinet and stored all of the pieces in a safe place. As I will show later, keeping every scrap of wood is very important!

The Restoration Of A Classic

Over the next several issues, you will witness the restoration of this classic radio, from the reconstruction of the cabinet to the restoration of the chassis and electronics. The project took almost a month to complete from start to finish; about 80 hours of labor. Next month, we will begin with the cabinet repair. I will be showing you the basics of veneer work, and what materials you will need and where to find them.

Our next projects will be two very interesting BCB crystal sets designed for sensitivity and selectivity. You might be surprised to experience the DX a crystal radio is capable of receiving! I've been toying with an experimental FM band crystal receiver, and hopefully will report on its progress in the near future. We have some other interesting projects lined up, and more "Boy's First Receiver" winners to announce. Keep those soldering irons warm, and best Seasons wishes to you and your family. ■

Editor's Note: We received this e-mail from Terry: Peppy succumbed to old age and passed away peacefully recently. He was in one of his favorite spots — looking out the bay window in the kitchen. I'm sure he's listening to some old radio right now and smiling.

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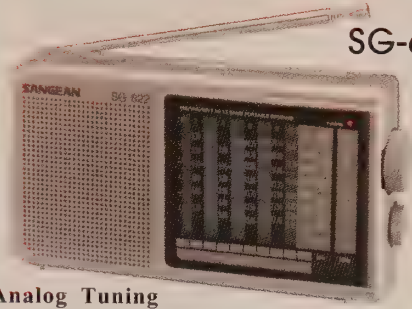

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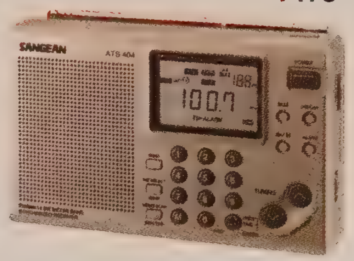

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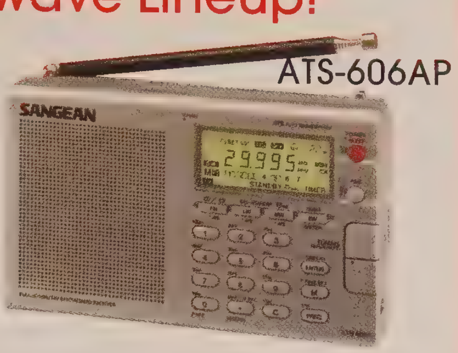

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scan tech

Trunking, Tips, Techniques, And Mods

The Future Of Scanning, And NatComm 99

Scanning is doomed. In fact, it probably won't last much longer at all, and if you're smart, you'll probably just get rid of all your radios immediately so that you won't have to go through a slow and painful withdrawal. Send them to me. I'm willing to bet I don't get too many radios in the mail, what about you?

How many times have you heard that argument or prophecy? This or that is going to come along and destroy our ability to listen, or the lawmakers are going to legislate scanners out of existence. I'm a bit more concerned about the latter possibility, but even they are showing signs of reason in this area.

There are lots of significant milestones around the corner, from a calendar viewpoint. In addition to the normal close of another great year of scanning, we're at the end of the '90s as a decade, and turning the new millennium. And in one more year, we'll embark on the great 21st Century that science fiction has played on for years. As we look toward the new millennium and with the Y2K hype all around us, we thought (well, Harold "Gee, you should write an article about that" Ort, our esteemed editor thought) that it might be worth taking a quick look at where we've been and a gander at the crystal ball to see where we might be heading. I'll warn you that if my crystal ball worked better, I'd be in a different business — at least working for one of the psychic hotlines, so take any predictions with a most liberal grain of salt. The whole shaker might be wise.

Historical Disasters

I think I've told the story before, but for those who missed it, or who've joined us recently, bear with me while I relate my first encounter with the "Scanning is Dead" crowd.

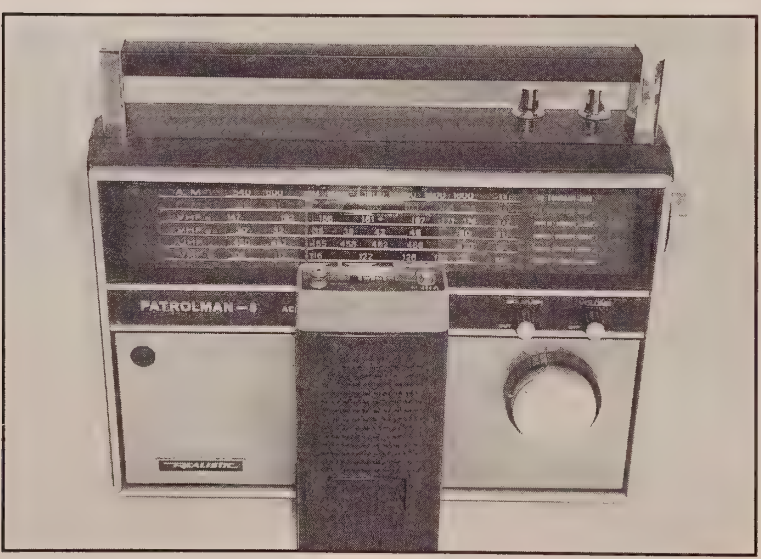
I got into VHF/UHF monitoring with a tunable receiver (before you start telling jokes about it being before scanners were invented, they were, but I didn't have one. I'm not nearly as old as Harold.). After I decided that I was hooked and wanted to do more, I started saving money from birthdays and a part-time job to get a real scanner. You can imagine how excited I was when I finally did!

About a week after I bought my first scanner, our local police officer came by and told my friend Jack (who's responsible for me getting into scanning in the first place) and I that he had really bad news. In about a month, they were going to have to take the police car into the shop for addition of something called Private Line and this would stop our ability to monitor. He was really sorry, because he knew we liked to listen, but the county was demanding it.

> ***". . . the doom and gloom of Private Line was for nothing."***

What a bummer. Oh sure, there would still be the fire department, and I could probably find a few other things to program — er — "crystal" into my four-channel scanner. But my main interest was the police, and they were going to this Private thing. Sure wish I'd known this before I spent all that money on my scanner!

So we listened as much as we could while we could. Might as well enjoy it while it was there, since we knew zero hour was coming. The night came, and the switchover was supposed to happen at midnight. So I listened for most of the day, and well into the night. Midnight came and went, and I was still listening



We've come a long way since these were popular. Yet even when these were state-of-the-art, there were lots of predictions about the demise of scanning. We're still here, and having a good time though, aren't we?

Benson the Bunny says "What are these things?" Well, Benson, since you're not quite as old as Harold, you probably won't remember them, but they're crystals for a scanner.

BY KEN REISS <armadillo1@aol.com>

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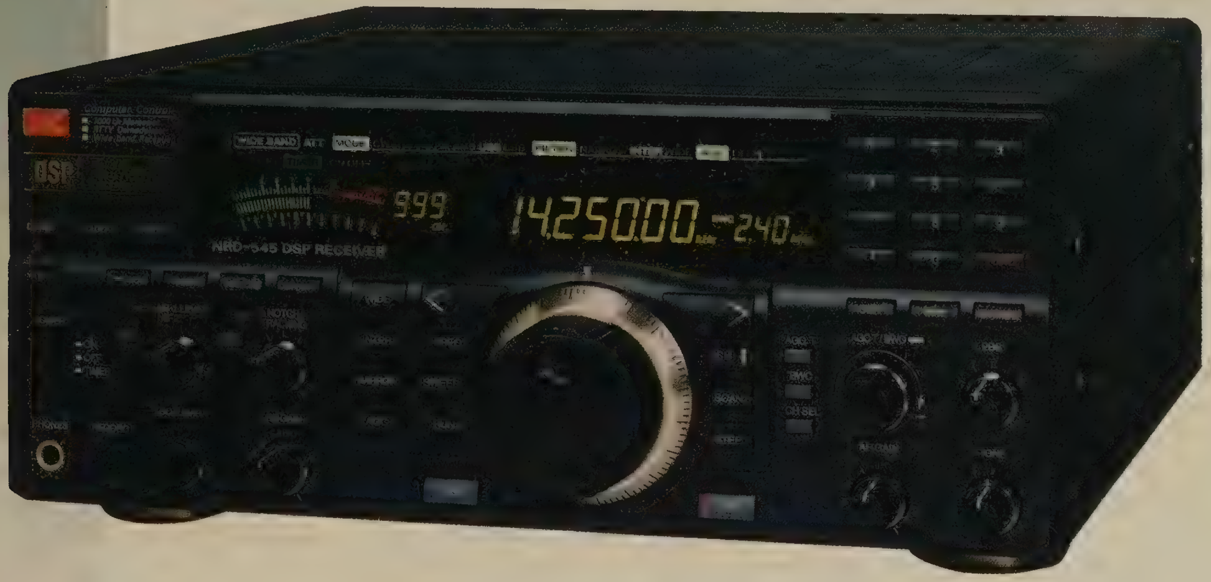

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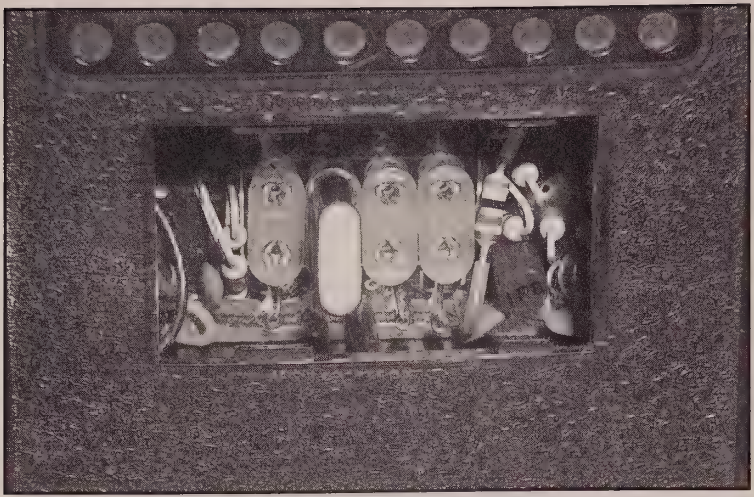

And they go in here. You needed a crystal for each frequency you wanted to scan. This radio could hold four at a time, but you could carry lots in your pockets for other frequencies when the action got hot.

Mason, Ohio provided many fire trucks and other public safety equipment for viewing at NatComm 99.

— and everything sounded fine. They must have had some problem with the switchover! I fell asleep listening, and since I left the scanner on, it woke me up in the morning with the beep tone they used for a holdup alarm sounding, but I could still hear it!

As luck would have it, our friend on the police force was off those days, and so it was a couple of days before we could get in touch with him. I don't think we even asked how his vacation was before we started in on "What happened? How come we can still hear? What kind of trouble did they have that delayed the switch? And when is the next target for the switchover?"

All of this third-degree questioning by a couple of over-enthusiastic radio hounds was met with a somewhat blank look. As far as he knew, they HAD switched! Well, if you caught the trade name, you've already been smiling at our stupidity, but we soon learned that this Private Line thing was really CTCSS, or Continuous Tone Coded Squelch System. Motorola uses the trade name Private Line for this technology. It's not designed to keep people from listening; it's designed to cut down the interference for people using the two-way system. In other words, the doom and gloom of Private Line was for nothing. In fact, these days, it's a feature we *like* to have on our scanners too — to cut down interference!

Enter Trunking

How long ago was it that trunked systems were going to eliminate the ability of the scanner enthusiast to listen? Not all that long, if you stop and think about it. Oh sure, they were harder to follow than a normal system, but if you wanted to go to the effort, you could at least keep up with the comms and get an idea of what was going on. In fact, when it first became available, many public safety agencies were lead to believe that just moving to 800 MHz made them scanner-proof. And it did, for a short time, because none of the scanners on the market at the time could receive those bands. It didn't take long for that to change either.

Now we have TrunkTracker and a host of other tools to help follow the action. I just recently got to play with a BC-245XLT on an EDACS system and it works like a charm. We have a more complete review of the 245 in next month's "Product Spotlight," so check it out or don't wait for the review, just go get one!

Other Scanning Changes

For some time now, the federal government has been moving towards encrypted systems for sensitive information. And quite frankly, they should. It makes much more sense to me to put the security on the transmission than to try and block the receiver through artificial means like legislation. No doubt, we've all heard or read this argument as it applies to the cellular industry, but they chose not to build security into the system from the beginning, so legislation was the option. As digital modes become more common, encryption and scrambling techniques will also be more readily available to smaller agencies who need them.

If adopted, protocols like APCO25, a proposed standard for digital systems used in public safety work, will allow for standard equipment to be manufactured across the industry. This includes both two-way equipment for public safety department use, and receive-only equipment for monitoring, if so desired. Ultimately, some form of digital modulation will probably become as commonplace as FM transmissions are today, and just as easy to monitor if not intentionally secured. If you'll recall, FM was a newfangled secret weapon of communications security at the end of World War II.

So will we be able to monitor this stuff? Probably, at least eventually. In some form or another, although it might well be via what's made available on the Internet rather than over-the-air reception. And it could take some time. If you're in a city that's already converted to digital, that's not good news if your only interest is public safety. But there are other things to monitor in the meantime.

Now, I'll also have to admit that there are places in the country that are moving a bit faster than others. In some areas, they've adopted digital systems based on trunking protocols. Some are fully digital all the time, while others only encrypt the sensitive stuff. Again, I can't blame them for encrypting the sensitive stuff, or anything where an operation or officer safety might be threatened. Depending on the relationship with scanner listeners that your department has, they may push for full-time scrambling or push just as hard to make routine dispatch audio and other non-critical communications available to the public. Now, more than ever,

STATE HIGHWAY PATROL

This Ohio State Police car was also present for viewing and photos.

This life flight helicopter was one of the highlights of the static equipment display.

teners to show them that the majority of scanner users are not the problem.

On the other hand, many areas are still operating conventional VHF systems. Unless there is some windfall of funds to upgrade their communications equipment, I don't see many of them switching anytime soon. So, while certain things in some areas may be made unavailable by newer communications technology, there is likely to be something to scan for a long time to come. And by then, the scanners will catch up to the transmissions that we're supposed to, or at least legally allowed to monitor. How much of that there is, will be determined by our behavior as responsible scanner enthusiasts.

You wouldn't think that the solar cycle had much to do with scanning, the way it does with shortwave, but I'm told it does. For one thing, propagation on the VHF/UHF bands increases with increased solar activity and that's of interest to some folks.

But there's another connection. I'm told that many new scanner enthusiasts, or radio enthusiasts in general, get there through another type of radio. AM broad-

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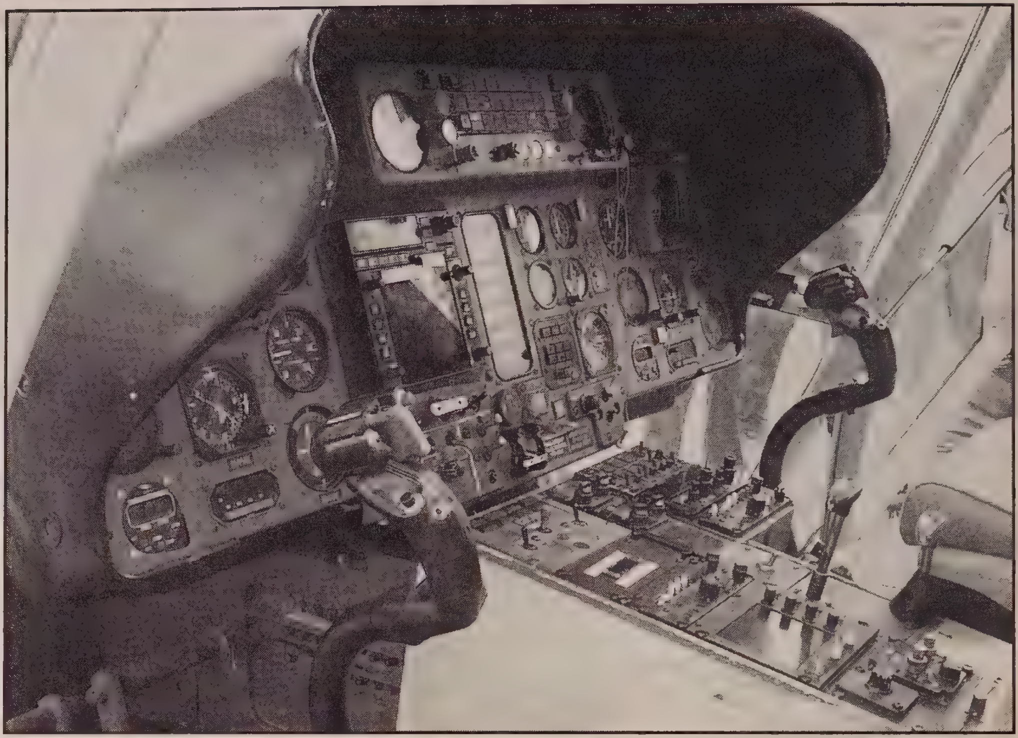

Inside the helicopter is pretty standard flight controls.

through another type of radio. AM broadcast DXing is a common one, but shortwave listening is another common way. Ham radio has seen quite a growth in recent years with changes to the licensing requirements. Many hams became interested in scanners and shortwave too! And many listeners eventually get their ham license. We may see more of that as licensing requirements are relaxed.

Of course, many scanner enthusiasts join our ranks because they work with radio in some way (professionals in law enforcement, fire and EMS services, aviation industry workers and others are all candidates for being nosy about what's happening while they're not working.). We'll continue to see those folks join our ranks.

Shortwave listening follows the sunspot cycle almost exactly, and with it on the upswing once again, there's potential for new listeners, both shortwave and scanner. The Internet and other computer hobbies have taken some folks away, no doubt. If a person is just interested in program content, the Internet is a much more practical way of getting that information. We're even seeing a few scanners on-line so you can listen real-time in other cities. I'm sure we'll see more and more computer connections as time goes forward. As a side note, part of being a good scanner citizen is to make sure that you have permission from those agencies you'll be broadcasting on the Internet before you connect your radio for sound!

So my crystal ball says that the bottom line comes down to this: If new folks come along and get interested (assuming they don't get turned off by the infighting and flame wars of the Internet groups) and providing nobody records and publishes Congressional phone conversations or something similar (we'll get the fallout regardless of who actually does it), I think we'll be fine. Maybe we'll even have some fun at this endeavor — hey, wasn't that the idea in the first place?

The reason new listeners are so important is to keep the hobby viable. Many people enter and leave the hobby all the time, for all sorts of reasons. But if they aren't replaced, and if we don't find the lifelong radio nuts, our numbers will diminish. Eventually, they will get small enough, making the hobby no longer worth supporting from a commercial standpoint. No new radios, books, magazines, or other sources of information and technology would spell the end of the whole hobby. Without new radios and technology, some of those new modes will succeed at becoming scanner-proof by default. Now that would be a shame.

NatComm 99

Way back in June (don't you just love magazine lead times?), I had the pleasure of attending NatComm 99, the convention for scanner enthusiasts sponsored by the Bearcat Radio Club and Hobby Radio Stop. The convention was held at the

"If new folks come along and get interested . . . I think we'll be fine."

Holiday Inn Express in Mason, Ohio, which is just outside Cincinnati.

Excellent seminars covered a range of topics. Trunking in all forms was addressed, as well as basic scanning. A Delta airlines pilot filled us in on air communications from gate to gate, and an excellent discussion on the operations of the U.S. Secret Service caused a fair bit of excitement. Shortwave listening was even featured in a seminar. Perhaps that's payback to the SWL Winterfest folks for allowing the Scanner Scum to have one seminar above 30-MHz in Pennsylvania?

One highlight of the convention was a display of various public safety equipment, including a life flight helicopter which landed and visited us on Saturday. Many local fire engines, ambulances, officer cars, and even a National Guard communications HUMV were also on-hand.

There were also several displays available indoors at various booths. Many vendors were on-hand with all sorts of radio accessories and products, including batteries for those of us stupid enough not to pack them. (I can't believe I did that, but up until the very last minute, there were questions about being able to go). There was lots of time to sit or stand and talk with various dealers and fellow scanner enthusiasts about equipment or techniques. Many of the participants were from Ohio and were able to share frequency information as well. For us out-of-towners, an excellent frequency list was provided so that we could program a radio and be in on all the fun without searching.

The evening was rounded out with an excellent banquet dinner. Of course, there was much discussion around the tables before dinner, but it got very quiet when the food started arriving. Following the meal, we enjoyed an absolutely fascinating presentation on Urban Search and Rescue Task forces operated by the Federal Emergency Management Agency. It just so happens that Mr. James Gruenberg, the banquet speaker, is the head of the Miami Valley Task Force and he was able to fill us in first-hand on how the system works.

A typical convention with speakers and exhibits, Natcomm 99 was quite full of activities for all who participated. Unfortunately, the weekend coincided

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In tests conducted by Lockheed Corporation, one of the world's largest Aerospace Companies, at their Rye Canyon Laboratory and Antenna Test Range, the Wilson 1000 was found to have 58% more power gain than the K40 Electronics Company, K40 CB Antenna. This means that the Wilson 1000 gives you 58% more gain on both transmit and receive. Now you can instantly increase your operating range by using a Wilson 1000.

Lockheed - California Company
A Division of Lockheed Corporation
Burbank, California 91520

Wilson Antenna Company Inc.
3 Sunset Way Unit A-10
Green Valley Commerce Center
Henderson, Nevada 89015

Subject: Comparative Gain Testing of Citizen's Band Antennas
Ref: Rye Canyon Antenna Lab File #870529

We have completed relative gain measurements of your model 1000 antenna using the K-40 antenna as the reference. The test was conducted with the antennas mounted on a 16′ ground plane with a separation of greater than 300′ between the transmit and test antennas. The antennas were tuned by the standard VSWR method. The results of the test are tabulated below:

FREQUENCY (MHZ)	RELATIVE GAIN (dB)	RELATIVE POWER GAIN (%)
26.965	1.30	35
27.015	1.30	35
27.065	1.45	40
27.115	1.60	45
27.165	1.50	41
27.215	1.60	45
27.265	1.75	50
27.315	1.95	57
27.365	2.00	58
27.405	2.00	58

58% MORE POWER GAIN THAN THE K40

Individual test results may vary upon actual use.

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New Design

The Wilson 1000 higher gain performance is a result of new design developments that bring you the most powerful CB base loaded antenna available.

Why Wilson 1000 Performs Better

Many CB antennas lose more than 50% of the power put into them. The power is wasted as heat loss in the plastic inside the coil form and not radiated as radio waves.

We have designed a new coil form which suspends the coil in air and still retains the rigidity needed for support. This new design eliminates 95% of the dielectric losses. We feel that this new design is so unique that we have filed a patent application on it.

In addition, we use 10 Ga. silver plated wire to reduce resistive losses to a minimum.

In order to handle higher power for amateur use, we used the more efficient direct coupling method of matching, rather than the lossy capacitor coupling. With this method the Wilson 1000 will handle 3000 watts of power.

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So far you have read about why the Wilson 1000 performs better, but it is also one of the most rugged antennas you can buy. It is made from high impact thermoplastics with ultraviolet protection. The threaded body mount and coil threads are stainless steel; the whip is tapered 17-7 ph. stainless steel. All of these reasons are why it is the best CB antenna on the market today, and we guarantee to you that it will outperform any CB antenna (K40, Formula 1, you name it) or your money back!

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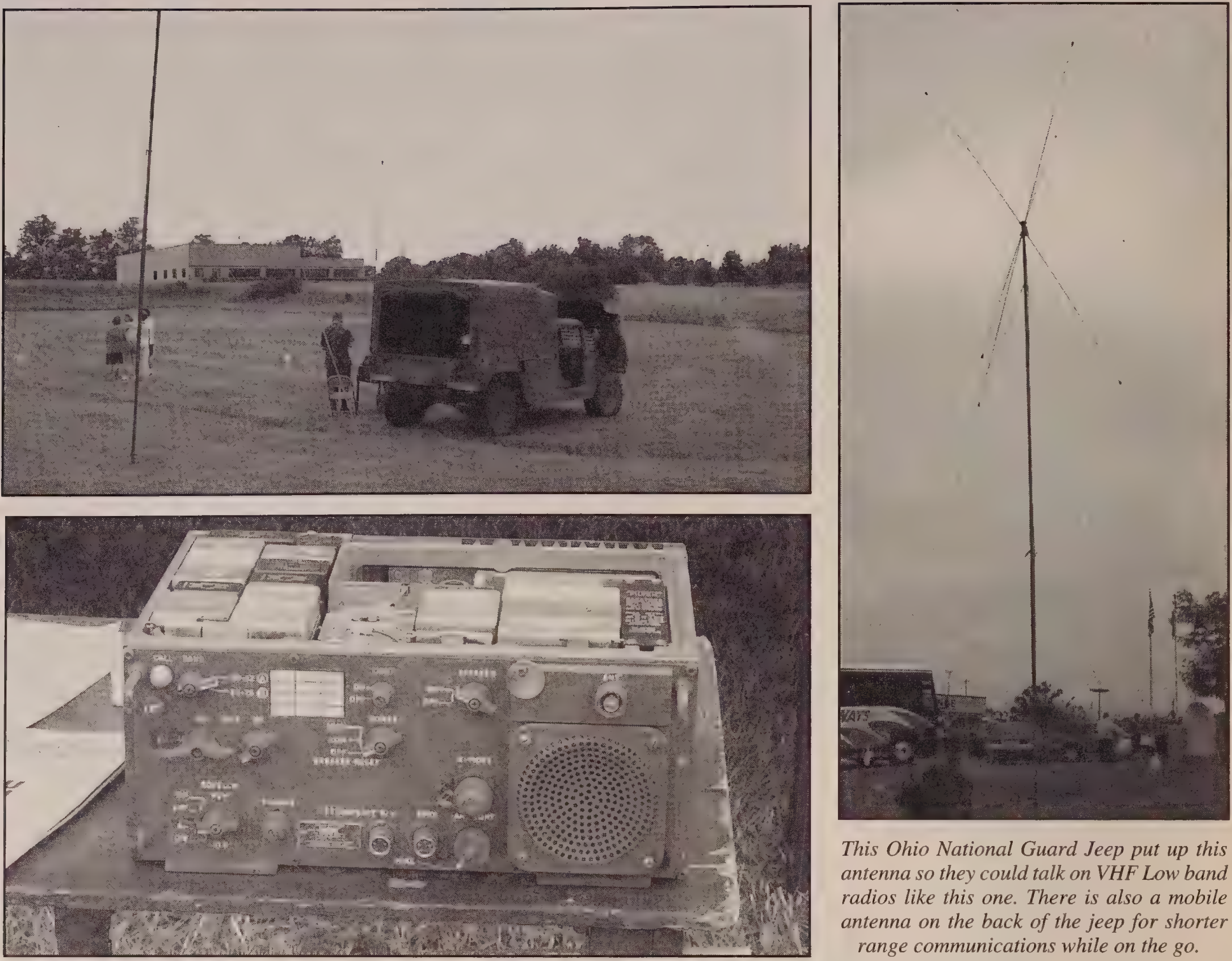


This Ohio National Guard Jeep put up this antenna so they could talk on VHF Low band radios like this one. There is also a mobile antenna on the back of the jeep for shorter range communications while on the go.

with Father's Day, and perhaps the first-of-its-kind show didn't get quite enough publicity, but the attendance was a bit low. Less than 50 people enjoyed an excellent weekend and convention centered on scanning. Discussions about doing the show again next year also included moving the date towards fall, when both the weather and people's schedules might be a bit more hospitable. I'll certainly sign up to go again if the opportunity arises.

Scanning The Web

This month's featured site is "Woody's Scanner Page" located at <http://homepage.dave-world.net/~woody99/html/scanner.htm>. Quite a long URL, but you'll be rewarded with lots of good scanner links, and information, somewhat focused on the AR-8000, but there's lots of general scanner links and info there too. Have fun, and tell him we sent you!

Scanning The Mail

Robert Schatz wrote in to tell me how stupid I am, and Robert didn't even know about the batteries incident. Well, he was polite about it and didn't say it in so many words, but it was obvious. Here I featured a picture of the All Ohio Scanner Club booth at the Dayton Hamvention, and didn't mention a thing about how to get in touch with them.

Thanks for your letter Robert! You, and everyone else, can reach that AOSC at <www.aosc.org>, or via traditional mail by writing to Dave Marshall at the All Ohio Scanner Club, 20 Phillip Drive, New Carlisle, OH 45344-9108. Dues are $19.50 per year, which includes a subscription to the American Scannergram, their excellent club newsletter. Tell Dave that *Pop'Comm* sent you — finally.

And Jake Helms wrote in just to tell me he enjoyed the article on scanning focus recently. Thanks Jake! It's always nice to hear that the stuff we're writing is of some use or amusement to the folks who really count — you, the scanner enthusiasts!

Your Input Needed

What's on your mind? Got a scanner question you can't find an answer to? Got a picture of your shack you'd like to see in print? Find a new frequency you think others in your area would like to have? Got a special trick you'd like to share? Tired of answering my questions yet?

Well, quit reading and send them in. We're always happy to receive your input. If you need a direct reply, send an SASE or E-mail. You can reach me at the usual place: Ken Reiss, 9051 Watson Rd. #309, St. Louis, MO 63126, or E-mail at <armadillo1@aol.com>. Until next month, good listening! ■

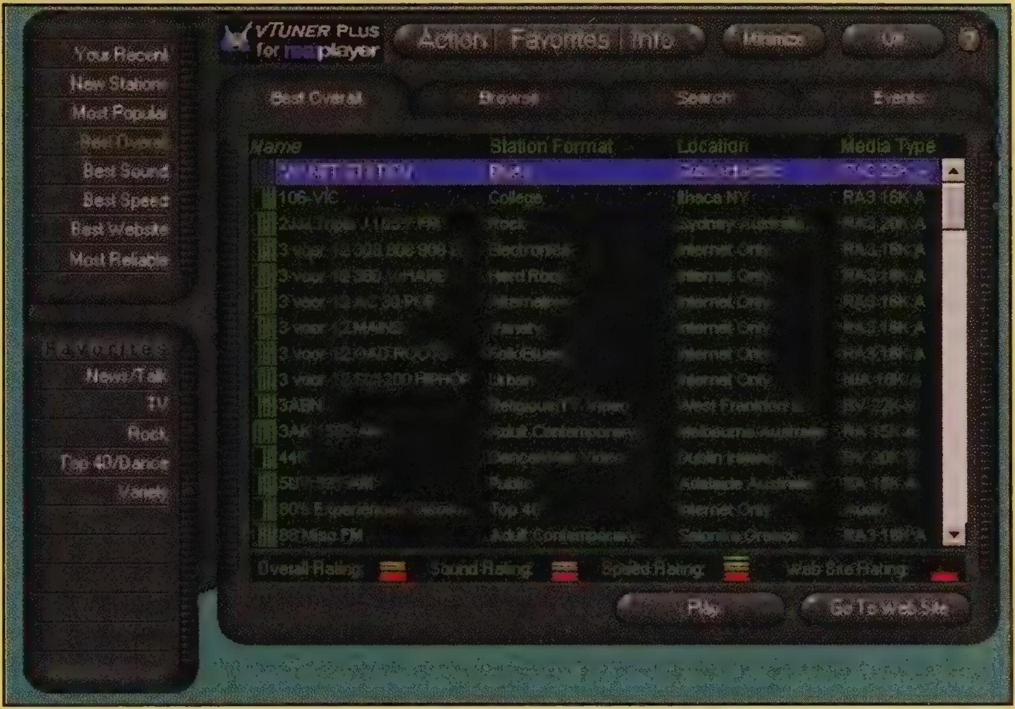
radio & the internet

Pop'Comm's Cyber Sleuth Checks Out Online Resources

Free Worldwide Tuner, And Hot Radio Websites!

The old sleuth is spoiled — my days of using RealPlayer G2 (discussed last month) as a stand-alone application are but a fading memory of the 20th Century. I now sport a "supercharged," 21st century player. You can too, and begin the new millennium in style. Pump up your player with a free (or inexpensive) worldwide tuner to your software arsenal. If you have an interest in music, sports, news, talk, live events, TV, or scanners (on a worldwide scale), the three tuners discussed this month have it covered — in spades! Stellar performers all, they come loaded with over 1,500 stations each, include free on-line database update capability and are extremely easy to install and use. Since you can obtain each of the programs without (initial) charge, why not download all three, take 'em for a test drive, and keep the one you like best. Of the three, only vTuner (as of this writing) offers a totally free (basic) version. The other two are fully functional but will die 15 days after installation unless registered.

Regardless of which one you choose, you won't be disappointed! Wanting to constantly upgrade, as you explore and enjoy this rapidly improving technology, will be your "problem." Take it from the sleuth — keep those credit cards hidden. This stuff is addicting! On the serious side, while visiting these tuner sites, be sure to spend a little time looking around — you can obtain lots of good information about the technology in general. Also, once you've fired up your tuner, be prepared for some of the station feeds to not work. In addition to normal network or server outages, Internet broadcasters (like Websites) can come and go in a heartbeat, making it virtually impossible for any tuner's database to be perfect.


vTuner Plus for realplayer
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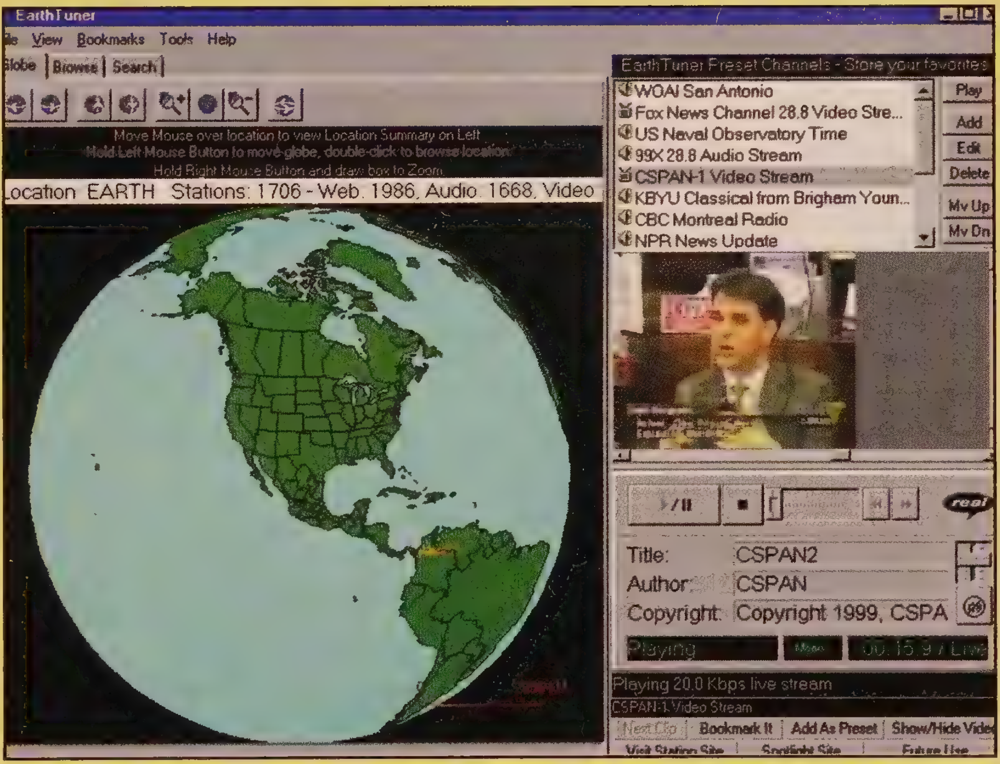
Favorites
Info
Minimize
Up
?
Your Recent
New Stations
Most Popular
Best Overall
Best Sound
Best Speed
Best Website
Most Reliable
Favorites
News/Talk
TV
Rock
Top 40/Dance
Variety
Best Overall
Browse
Search
Events
Name
Station Format
Location
Media Type
106-VIC
College
Ithaca NY
Overall Rating
Sound Rating
Speed Rating
Web Site Rating
Play
Go To Web Site

The vTuner offers an easy way to find a multitude of audio and video broadcasting sources.

A Look At vTuner

vTuner is an easy way to find and enjoy the myriad of audio and video broadcasting resources over the Internet. A massive station database, spanning the globe with over 100 different countries included, makes finding practically any type of broadcasting a "snap." vTuner can be your complete guide to the world of live entertainment, music, news, and talk on the Internet. In addition to a very pleasing user interface, (for me) I was particularly impressed with the current information and resources available at the their Website. The basic vTuner is FREE but


EarthTuner
View
Bookmarks
Tools
Help
Globe
Browse
Search
Move Mouse over location to view Location Summary on Left
Hold Left Mouse Button to move globe, double-click to browse location
Hold Right Mouse Button and draw box to Zoom
EarthTuner Preset Channels - Store your favorites
Play
Add
Edit
Delete
Mv Up
Mv Dn
Next Clip
Bookmark It
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Show/Hide Video
Visit Station Site
Spotlight Site
Future Use

Location: EARTH Stations: 1706 - Web: 1986, Audio: 1668, Video

WOAI San Antonio
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99X 28.8 Audio Stream
CSPAN-1 Video Stream
KBYU Classical from Brigham Youn...
CBC Montreal Radio
NPR News Update

Title: CSPAN2
Author: CSPAN
Copyright: Copyright 1999, CSPA

Playing
00:15.9 / Live
Playing 20.0 Kbps live stream
CSPAN-1 Video Stream

Earthtuner shown here playing a CSPAN-1 video stream.

BY ERIC FORCE <eric@dobe.com>

displays advertising banners. vTuner Plus, with a few enhancements (including the ability to save your own station lists) and no advertising, costs $29.95. Check out <http://www.vtuner.com/index html>.

Earthtuner: Gets Worldwide Broadcasts!

Earthtuner — The Internet Media Receiver brings a world of radio and TV to your Windows desktop. Earthtuner combines RealAudio and RealVideo (included with RealPlayer G2) with a database of over 1,500 radio and TV sites, allowing you to receive broadcasts from around the world. Pick your stations by geography using an animated globe, by format or genre using the Channel Browser, or find great programming using Earthtuner's integrated search engine. When you tune in to something you like, save the station in a preset button or Earthtuner bookmark.

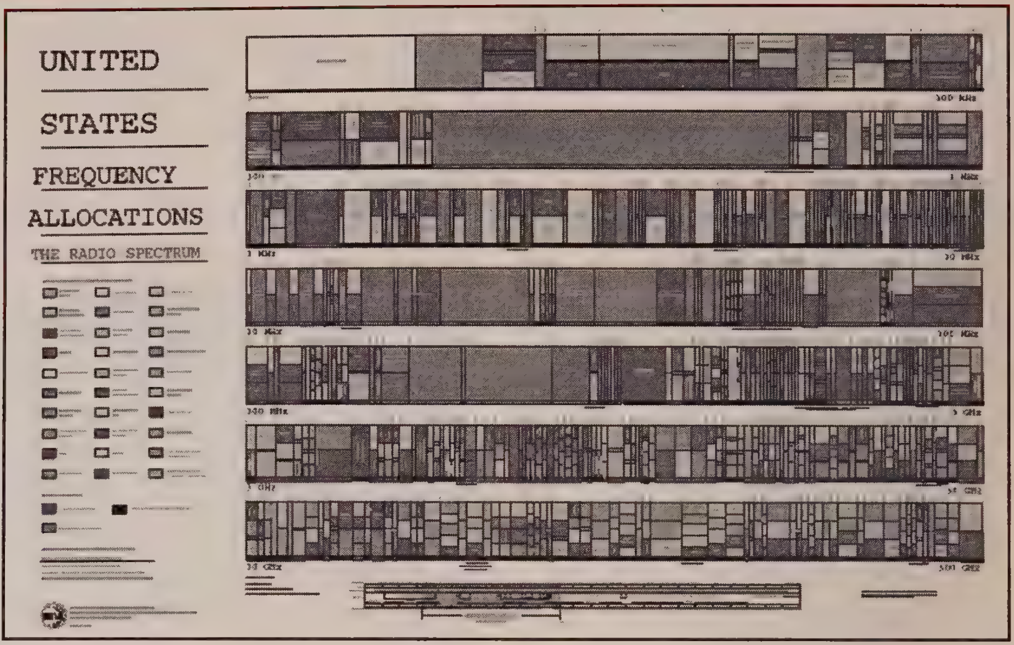
My daughter was also quite excited about using Earthtuner with her home schooling curriculum. In addition to exposing my grandkids to different cultures via audio and video feeds, Earthtuner's unique tuning globe can serve as an excellent tool for geography education. An on-screen display of Latitude and Longitude coordinates also compliment this already nifty program. Currently priced at $22.95, you can try it FREE for 15 days. It's at <http://www.earthtuner.com/>.

DigiBand Radio Is HOT

DigiBand Radio contains a database of over 1,500 Internet Radio and TV Stations. Using RealPlayer G2 technology built-in, you can tune in almost instantly news, talk, sports, entertainment, scanners, and every type of music you've heard of, plus a few you haven't. Functionally, DigiBand Radio appears to use the same or similar station database as Earthtuner (same company) but uses an interface more closely resembling a juke box and occupies much less on-screen space. Currently priced at $18.95 USD, it also has a FREE 15-day trial period.

DigiBand Radio is located at <http://www.digiband.com/dbindex.html>.

Before moving on, if you have a Website (or just want to create some multimedia presentations on your PC), you might be interested in Real Networks' FREE Slide Show and Video production applications. You can use either RealSlideShow or RealProducer to add streaming media capability to your site. I used RealSlideShow to create a "streaming media" family photo album and was quite pleased with the results given the price (FREE). Follow this URL for demos and more information: <http://www.real.com/>.



An onscreen DigiBand radio shot and Eric's favorite picks.

Language Translation

It doesn't take long to realize that the Internet and World Wide Web (WWW) are truly global in reach. It also doesn't take long to find an excellent online resource only to be stopped dead in your tracks when faced with a language you can't read. AltaVista, well known as a premier Internet search engine, solves the problem with a free service that translates words, phrases, and entire Websites online in Spanish, French, German, Portuguese, and Italian. While not perfect, (English is a TOUGH language to translate!) you'll find these "machine" translations to be generally quite adequate for comprehension. This is another "must have" for your Web surfing toolbox. You'll also appreciate this service when visiting the various newsgroups and find a message written in a "foreign" language. Set your browser up for translations at: <http://babelfish.altavista.com/content/browser.htm>.

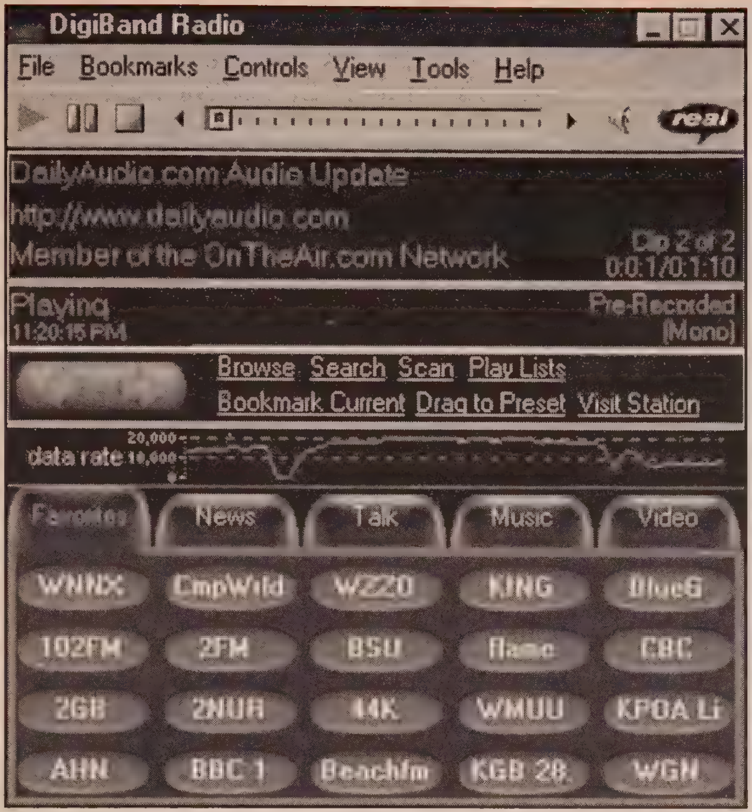
- TIP: When "Pen-Paling" with your non-English speaking friends, try to keep your sentences short and refrain from using slang or any word that has a double meaning. The AltaVista translator is what might be called a Level 1 (basic) machine translator. This means it does a word for word translation without regard for context or sentence structure. For example, the simple English sentence: "I went to the store." when translated to French, becomes: "Je suis allé à la mémoire." Translating back to English, it now reads: "I went to the memory." In this case, perhaps a better term for "store" might be "marketplace."

100 Years Of Radio

Hailing from Italy and containing many Italian language resources, the "100 Years of Radio: 1895–1995" Website provides a multitude of links for you to explore the fascinating history of radio and the people to whom we owe our gratitude for this marvelous technology. After you have the AltaVista translation service squared away, be sure to visit: <http://www.alpcom.it/hamradio/>.

U.S. Frequency Allocation Chart — Free Online

The U.S. Commerce Department's National Telecommunications and Information Administration (NTIA) spectrum wall chart, dated March 1996, depicts the radio frequency spectrum allocations to radio services operated within the United States. This chart graphically partitions the radio frequency spectrum, extending from 9 kHz to 300 GHz, into over 450 frequency bands and uses distinct colors to distinguish the allocations for the


DigiBand Radio
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real
Browse Search Scan Play Lists
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data rate 20,000 10,000
Favorites News Talk Music Video
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2GB 2NUR 44K WMUU KPOA Li
AHN BBC 1 Beachfm KGB 28 WGN

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Clip 2 of 2
0:0:1/0:1:10
Playing
11:20:15 PM
Pre-Recorded
(Mono)

It's free online in a Portable Document Format (PDF) using Adobe Acrobat Reader.

thirty different radio services. A Portable Document Format (PDF) version is available for FREE online using the Adobe Acrobat Reader. A 30" x 40" printed copy can also be ordered for $5.50 each. I ordered a printed copy and was generally pleased, but give them some demerits for sending it FOLDED in a flimsy envelope. Consequently, it arrived wrinkled and creased. Check out the chart at: <http://www.ntia.doc.gov/osmhome/allochrt.html>.

Radio Netherlands

The Radio Netherlands site is like a good book. Once you start reading (in this case exploring), it's hard to put it down. There are so many great resources there, I felt like a kid in a candy shop when visiting. Included in their "Reference Centre" alone (URL below), you'll find pointers to comprehensive and well-written material covering Antique and Old Time Radio, Offshore Broadcasting, Longwave Radio, Radio Propagation Sources, Test reports on Shortwave receivers and accessories, Antenna Advice, Long Distance Mediumwave Listening, The Solar Guide, Lowdown on Lightning, Blackout! Sudden Ionospheric Disturbances, Understanding the Jargon, Writing Useful Reception Reports, and MUCH, MUCH more. Be sure to visit their "home" page to view an index to the entire site. Radio Netherlands is must visit and bookmark site. It's at <http://www.rnw.nl/realradio/html/reference.html>.

Shortwave Listening

From John Figliozzi, author of the popular book *"The Worldwide Shortwave Listening Guide,"* available through RadioShack and Tandy stores worldwide, comes *"WWW Shortwave Listening Guide"* — a free and comprehensive list-

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ing of worldwide Shortwave broadcasts in English and other languages. Broadcasts can be searched for by day and type, as well as current hour on current day. If you enjoy SWL, this site is for you. An outstanding resource! Be sure to check it out at: <http://www.anarc.org/naswa/swlguide/>.

CB Radio Resources

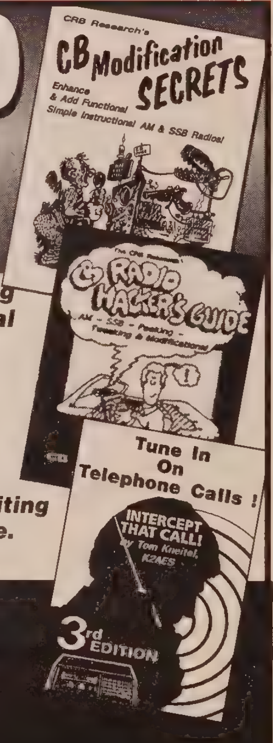
If CB is your bag, don't miss Scott McClements' "The Ultimate Guide to 11 Meter CB Antennas" site. Comprehensive, easy to navigate, and profusely illustrated, it's one of the best online antenna resources you'll find for CB. In Scott's words, ". . . this site is dedicated to bringing true information about the different types of antennas you can use, buy, and build for Citizen Band Radio and 11 Meter DXing. From concept to construction, I have set out to provide the most technically correct information possible." I couldn't have said it better. Break one-nine and check his twenty: at <http://members.tripod.com/~cb_antennas/index.html>.

Crystal Radio

Owen Pool (WB4LFH) describes his "Crystal Radio Resources" site as providing a "pretty good set" of resources and ideas for the crystal radio enthusiast. I disagree. I'd call it AWESOME! Owen also proves that a Website doesn't have to be glitzy to be outstanding. In addition to detailed explanations, illustrations, and photos of projects he's built, you'll find a wealth of superb construction tips, tutorials, and other valuable information. His massive "Links and other Resources" section is a master (well-described) index of what's out there, including component resources. Don't miss this on-line treasure chest at <http://www.thebest.net/wuggy/>.

The World Of Wireless Communications

Having received several kudos from well-known reviewers, Point.com appears to be a great place to shop for your wireless phone, service, and accessories because it quickly helps you evaluate (and potentially buy) the right product at the right price from the largest selection. The Point.com Website is the only place I know of where you can research and compare, side-by-side, virtually all available wireless phones and service plans in your area, identify what meets your needs and conveniently buy online. Featuring more than 3,000 service plans, 200 phones, and 1,000 accessories, Point.com is the only retailer so far to showcase probably all wireless phones and plans in the top 50 U.S. metropolitan areas, and accessories nationwide. After browsing their site, I'd tend to agree with their closing comment: "It (Point.com) is a free, smart, convenient, reliable, and objective consumer advocate." Check 'em out at: <http://www.point.com/>.



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Let's Home Brew!

Finding a reliable (and customer-oriented) component vendor for your home brew projects can be an expensive and frustrating experience if you don't pick the right one. Here are two that I've personally had the pleasure of doing business with many times, on and off-line, and have been quite pleased with their service, quality, pricing, and delivery.

Mouser Electronics, Inc., is a large distributor of (new) brand name quality electronic components. In addition to competitive pricing, you'll appreciate their extremely fast shipping. Adding to the kudos, there is no minimum order, which compliments their policy of "maximum service" regardless of the size of the customer or the size of the order. At their Website, a comprehensive (and secure) online catalog and ordering system is provided as well as a free (400-page) paper catalog being available upon request. Once you have the paper catalog, you can easily place online orders using only the catalog item numbers. Visit and bookmark <http://www.mouser.com/>.

Antiques Electronic Supply is another one of my favorites. AES specializes in tubes, sockets, capacitors, transformers, resistors, books, grill cloth, test equipment, tools, and so forth. They have one of the largest inventories of small (receiving type) air core variable capacitors around. A 68-page paper catalog, as well as online ordering, is available. While many of their products would be classified as "New Old Stock," you'll find quality components, competitive pricing, and a 10 day money back guarantee. A $10 minimum and $2.50 handling charge (in addition to shipping) applies to each order. Visit and bookmark: <http://www.tubesandmore.com/>.

Well, that's about it for this month, the end of this millennium. See you again in the 21st Century. Be sure to visit the *Pop'Comm* Website at <http://www.popular-communications.com/> for the latest greatest and don't forget to E-mail me those suggestions for resources you think should be shown here. Also, please note my new E-mail address: <eric@dobe.com>. Until next time, 73. ■

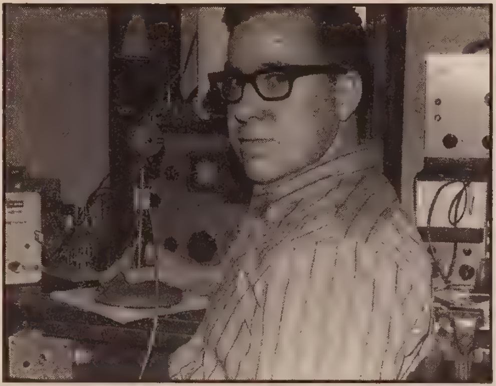
how I got started

Congratulations To Robert Daniels, WA3MGN Of New Jersey!

Popular Communications invites you to submit, in about 150 words, how you got started in the communications hobby. Entries should be typewritten, or otherwise easily readable. If possible, your photo (no Polaroids, please) should be included.

Each month, we'll select one entry and publish it here. Submit your entry only once; we'll keep it on file. All submissions become the property of *Popular Communications*, and none will be acknowledged or returned. Entries will be selected taking into consideration the story they relate, and if it is especially interesting, unusual, or even humorous. We reserve the right to edit all submitted material for length, grammar, and style.

The person whose entry is selected will receive a one-year gift subscription (or one-year subscription extension) to *Popular Communications*. Address all entries to: "How I Got Started," *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801 or E-mail your entry to <popularcom@aol.com>, letting us know if you're sending photos.



Robert Daniels, WA3MGN, circa 1971 with the Virboplex "bug" key behind the old Lafayette Radio crystal mic.

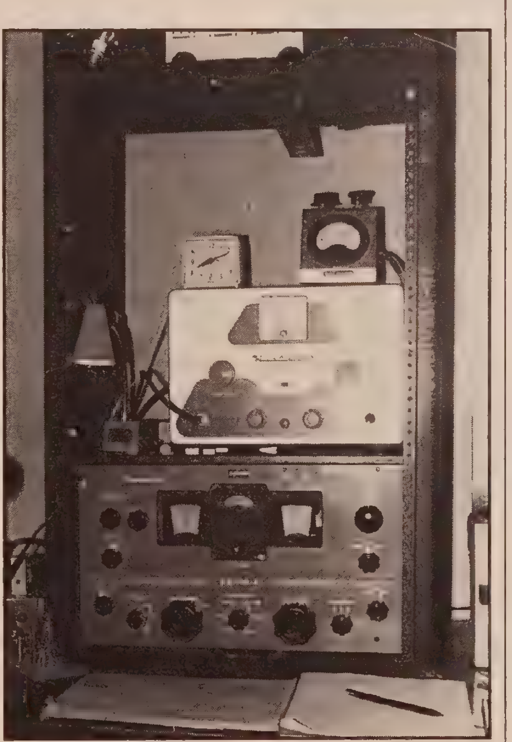
Our December Winner

Pop'Comm reader, Robert Daniels, WA3MGN, says, "My first receiver was an old broadcast console that had shortwave bands. I wondered what those hams who sounded like Donald Duck were talking about! Then, a neighbor who was an ex-ham gave me his receiver, a National NC-57. That was the summer of 1957. A year later, at age 15, I was a novice ham. I built a two-tube transmitter on a board from *Popular Electronics*, and went on 40-meters as WA2AYA.

I was putting out a harmonic signal on 20-meters since my rig was not shielded. I used my newspaper route earnings to buy a Heathkit DX-20. Nine months later, I became a General class, WA2AYA and added a Knight Kit VFO to the rig. Those first few years I 'lived' for CQ on 40 and 80 meters!

I have met dozens of people and made many friends via ham radio. I operate mostly 2-meter FM with — what else — an old Heathkit 2036A, and I get on 40- and 80-CW whenever I can.

A future addition to the shack will be an all-band receiver to monitor foreign broadcast stations." ■



Robert's station photo from '71 with homebrew SWR bridge, Hammarlund HQ-129X receiver, and Heath DX-40 transmitter. The QSL at top of the photo is made from an 80-column IBM punch card.

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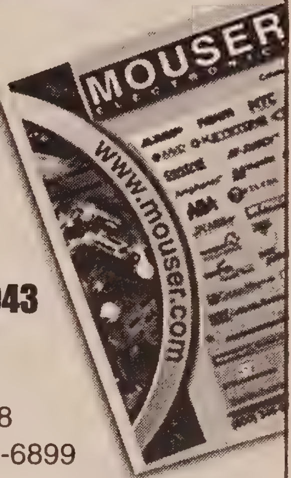

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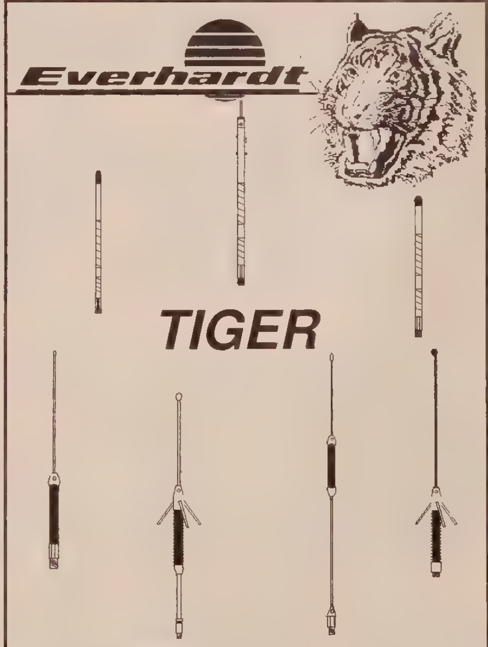
CIRCLE 70 ON READER SERVICE CARD



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CIRCLE 66 ON READER SERVICE CARD

clandestine communiqué

Tuning In To Anti-Government Radio

New Anti-Vietnamese Government Station, And Clandestine News From Kurdistan

A new anti-Vietnamese government broadcaster is **Radio Free Vietnam**, being aired over LeSea Broadcasting's KWHR in Hawaii. The half-hour program currently airs from 1500 to 1530 on **9930**. The program is being produced by a non-government organization based in California.

The **Voice of the People of Kurdistan** is one of several Kurdish clandestines, all more or less chasing the same goal: an independent Kurdistan. VOPK is the official station of the Patriotic Union of Kurdistan and operates on **4060 and 7000** (both frequencies are variable) from 0245 to 0600, 1500 to 1900, and 2000 to 2100.

The anti-Nigerian government program **Radio Kudirat** may have returned to the air, as before via South Africa's transmitting facility at Meyerton. See what you can turn up on **11560** around 1930. Check **6205**, as well. If you hear them, you can send a reception report to the United Democratic Front of Nigeria (UFDN), P.O. Box 9663, London SE1 3ZD, England.

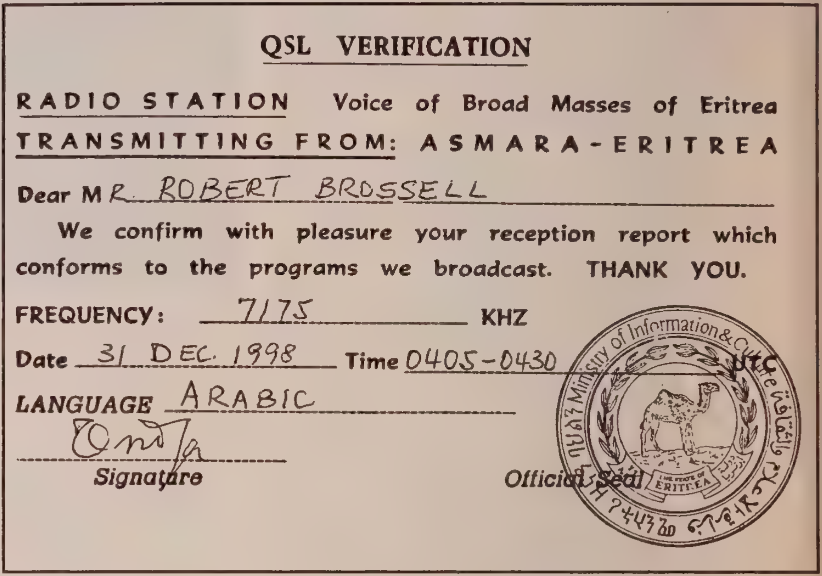
Radio Freedom, the Voice of the Communist Party of Iraqi Kurdistan is now on the air from 1600 to 1700, operating on **variable 3900** — not a good combination for reception in North America. In fact, it's about as close to impossible as you can get. Programming is in Kurdish. It has been on the air for about three years.

A similar and probably connected station is the **Voice of the Iraqi Communist Workers Party**, which also uses **3900**. The station is on the air from 0300 to 0430 on 3900, and also from 1730 to 1900 on 3900 and **4755**, broadcasting in Kurdish and Arabic. The 0300 broadcast is a repeat of the previous day's 1730 airing.

Radio tag, Sudanese style, is still being played by opposition station **The Voice of Sudan**, apparently based in Eritrea, and is probably some kind of government jamming station which airs continuous music. The clandestine is scheduled from 0400 to 0500 and 1600 to 1800 or later, although it may also be active during other periods. The jammer is active during the same general time periods. Both operate on or very **near 8000**. Of the two, the one which features the most talk and is slightly lower in frequency seems to be the **Voice of Sudan** clandestine, which, incidentally, features a bit of English at times. The station is operated by the Sudanese National Democratic Alliance, 16 Cameret Court, Lorne Gardens, London W11 4XX, England.

The **Democratic Voice of Burma** is currently scheduled at 1245–1345 on **15600 and 17750.**

The **Voice of Oromo Liberation**, broadcasting in opposition to the Ethiopian government, is broadcasting Thursdays, Saturdays, and Sundays from 1700 to 1800 on **15715**, via a German government transmitter.



QSL VERIFICATION

RADIO STATION Voice of Broad Masses of Eritrea

TRANSMITTING FROM: ASMARA-ERITREA

Dear MR. ROBERT BROSSELL

We confirm with pleasure your reception report which conforms to the programs we broadcast. THANK YOU.

FREQUENCY: 7175 KHZ

Date 31 DEC. 1998 Time 0405-0430 UTC

LANGUAGE ARABIC

Signature

Official Seal

Ministry of Information & Culture

THE STATE OF ERITREA

One clandestine which helped win its war and thus become a legitimate government station is the Voice of the Broad Masses of Eritrea, recently verified by Robert Brossell of Wisconsin.

The anti-Israeli **Voice of the Palestinian Revolution** is currently broadcasting from 1845 to 2030 on **9870, 11815, 11965, and 13645** in Arabic. These broadcasts are transmitted from Iranian government facilities.

Check **11787 (variable)** for the **Voice of the Movement of the Mojahedin of Iranian Baluchestan,** broadcasting in Arabic and Baluchi from 1200 to 1300 daily. It's not hard to figure that these broadcasts come from Iraqi government transmitters and, in fact, are likely a contrivance of the Iraqi government. Also, like many of the Iraqi government's broadcast efforts (Mother of Battle's Radio, etc.), the broadcasts are somewhat irregular. The frequency in question is a rather nasty spot, which normally has bad heterodynes. The official Iraqi radio operates here at various times.

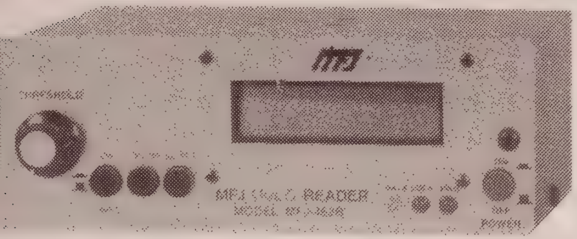
That covers things for this month. Please remember that your input is always most welcome. We're interested in loggings of clandestine stations and broadcasters, time and frequency schedules of same, E-mail and snail mail addresses (and Web sites) you may run across, background information about the groups and organizations which support stations of this kind, and anything else of interest in this field, including copies of any clandestine station QSLs or literature you may receive. Thanks for your continued support.

Until next month, good hunting! ■

BY GERRY L. DEXTER

Tap into secret Shortwave Signals

Turn mysterious signals into exciting text messages with this new MFJ MultiReader™



MFJ-462B
$179⁹⁵

Plug this self-contained MFJ MultiReader™ into your shortwave receiver's earphone jack.

Then *watch* mysterious chirps, whistles and buzzing sounds of RTTY, ASCII, CW and AMTOR(FEC) turn into exciting text messages as they scroll across your easy-to-read LCD display.

You'll *read* interesting commerical, military, diplomatic, weather, aeronautical, maritime and amateur traffic . . . traffic your friends can't read -- unless they have a decoder.

Eavesdrop on the World

Eavesdrop on the world's press agencies transmitting *unedited* late breaking news in English -- China News in Taiwan, Tanjug Press in Serbia, Iraqui News in Iraq -- all on RTTY.

Copy RTTY weather stations from Antarctica, Mali, Congo and many others. Listen to military RTTY passing traffic from Panama, Cyprus, Peru, Capetown, London and others. Listen to hams, diplomatic, research, commercial and maritime RTTY.

Listen to maritime users, diplomats and amateurs send and receive error free messages using various forms of TOR (Telex-Over-Radio).

Monitor Morse code from hams, military, commercial, aeronautical, diplomatic, maritime -- from all over the world -- Australia, Russia, Hong Kong, Japan, Egypt, Norway, Israel, Africa.

Printer Monitors 24 Hours a Day

MFJ's exclusive *TelePrinterPort*™ lets you monitor any station 24 hours a day by printing their transmissions on your Epson compatible printer.

Printer cable, **MFJ-5412**, $9.95.

MFJ *MessageSaver*™

You can save several pages of text in 8K of memory for re-reading or later review .

High Performance Modem

MFJ's high performance *phaselock loop* modem consistently gives you solid copy -- even with weak signals buried in noise. New threshold control minimizes noise interference -- greatly improves copy on CW and other modes.

Easy to use, tune and read

It's easy to use -- just push a button to select modes and features from a menu.

It's easy to tune -- a precision tuning indicator makes tuning your receiver easy for best copy.

It's easy to read -- the 2 line 16 character LCD display with contrast adjustment is mounted on a sloped front panel for easy reading.

Copies most standard shifts and speeds. Has *MFJ AutoTrak*™ Morse code speed tracking.

Use 12 VDC or use 110 VAC with MFJ-1312B AC adapter, $12.95. 5¼x2½x5¼ inches.

No Matter What Warranty

You get MFJ's famous one year *No Matter What*™ *unconditional* warranty. That means we will repair or replace your *MFJ MultiReader*™ (at our option) *no matter what* for a full year.

Try it for 30 Days

Order an *MFJ-462B MultiReader*™ *from* MFJ and try it in your own setup -- compare it to any other product on the market regardless of price.

Then if you're not completely satisfied, simply return it within 30 days for a prompt and courteous refund (less shipping).

Order today and try it -- you'll be glad you did.

Super Active Antenna

"World Radio TV Handbook" says MFJ-1024 is a "first rate easy-to-operate active antenna . . . quiet . . . excellent dynamic range . . . good gain . . . low noise . . . broad frequency coverage."

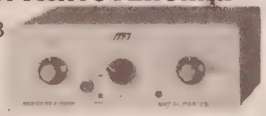
Mount it outdoors away from electrical noise for maximum signal, minimum noise. Covers 50 KHz to 30 MHz.

Receives strong, clear signals from all over the world. 20dB attenuator, gain control, ON LED. Switch two receivers and aux. or active antenna. 6x3x5 in. remote has 54 inch whip, 50 ft. coax. 3x2x4 in. 12 VDC or 110 VAC with MFJ-1312, $12.95.

$129⁹⁵ MFJ-1024

Indoor Active Antenna

MFJ-1020B
$79⁹⁵

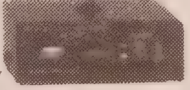


Rival outside long wires with this *tuned* indoor active antenna. *"World Radio TV Handbook"* says MFJ-1020 is a "fine value . . . fair price . . . best offering to date . . . performs very well indeed."

Tuned circuitry minimizes intermod, improves selectivity, reduces noise outside tuned band. Use as preselector with external antenna. Covers 0.3-30 MHz. Has Tune, Band, Gain, On/Off/Bypass Controls. Detachable telescoping whip. 5x2x6 in. Use 9 volt battery, 9-18 VDC or 110 VAC with MFJ-1312, $12.95.

Compact Active Antenna

MFJ-1022
$39⁹⁵



Plug this new *compact* MFJ all band active antenna into your general coverage receiver and you'll hear strong clear signals from all over the world from 300 KHz to 200 MHz -- including low, medium, shortwave and VHF bands.

Also improves scanner radio reception on VHF high and low bands.

Detachable 20 in. telescoping antenna. 9 volt battery or 110 VAC with MFJ-1312B, $12.95. 3⅛x1¼x4 in.

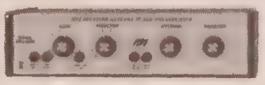
Eliminate power line noise!

MFJ-1026
$169⁹⁵

New! *Completely* eliminate power line noise, lightning crashes and interference *before they get into your receiver!* Works on all modes -- SSB, AM, CW, FM, data -- and on all shortwave bands. Plugs between main external antenna and receiver. Built-in active antenna picks up power line noise and cancels undesirable noise from main antenna. Also makes excellent active antenna.

MFJ Antenna Matcher

MFJ-959B
$99⁹⁵



Matches your antenna to your receiver so you get maximum signal and minimum loss.

Preamp with gain control boosts weak stations 10 times. 20 dB attenuator prevents overload. Pushbuttons let you select 2 antennas and 2 receivers. Cover 1.6-30 MHz. 9x2x6 inches. Use 9-18 VDC or 110 VAC with MFJ-1312, $12.95.

Dual Tunable Audio Filter

MFJ-752C
$99⁹⁵

Two separately tunable filters let you peak desired signals and notch out interference at the same time. You can peak, notch, low or high pass signals to eliminate heterodynes and interference. Plugs between radio and speaker or phones. 10x2x6 in.

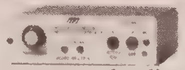
High-Gain Preselector

MFJ-1045C
$69⁹⁵

High-gain, high-Q receiver preselector covers 1.8-54 MHz. Boost weak signals 10 times with low noise dual gate MOSFET. Reject out-of-band signals and images with high-Q tuned circuits. Pushbuttons let you select 2 antennas and 2 receivers. Dual coax and phono connectors. Use 9-18VDC or 110 VAC with MFJ-1312, $12.95.

Receive CW, RTTY, ASCII, Weather Maps, News Photos

MFJ-1214PC
$149⁹⁵



Use your computer and radio to receive and display *brilliant full color* FAX news photos and incredible WeFAX weather maps. Also RTTY, ASCII and Morse code.

Animate weather maps. Display 10 global pictures simultaneously. Zoom any part of picture or map. Frequency manager lists over 900 FAX stations. Automatic picture saver.

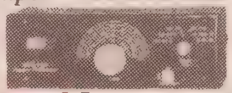
Includes interface, easy-to-use menu driven software, cables, power supply, comprehensive manual and *Jump-Start*™ guide. Requires 286 or better computer with VGA monitor.

High-Q Passive Preselector

MFJ-956
$39⁹⁵

The MFJ-956 is a *high-Q* passive LC preselector that lets you boost your favorite stations while rejecting images, intermod and other phantom signals. Covers 1.5-30 MHz. Has preselector bypass and receiver grounded pos. 2x3x4 inches.

Super Passive Preselector



MFJ-1046
$99⁹⁵

New! **Improves** any receiver! Suppresses strong out-of-band signals that cause intermod, blocking, cross modulation and phantom signals. Unique Hi-Q *series tuned* circuit adds super sharp front-end selectivity with excellent stopband attenuation and very low passband loss. Air variable capacitor with vernier. 1.6-33 MHz.

Easy-Up Antennas Book

MFJ-38
$16⁹⁵

How to build and put up inexpensive, fully tested wire antennas using readily available parts that'll bring signals in like you've never heard before. Antennas from 100 KHz to 1000 MHz.

MFJ 12/24 Hour LCD Clocks

MFJ-107B
$9⁹⁵

MFJ-108B
$19⁹⁵

MFJ-105C
$19⁹⁵

MFJ-108B, dual clock displays 24 UTC and 12 hour local time *simultaneously*. **MFJ-107B**, single clock shows you 24 hour UTC time. *3 star rated* by *Passport to World Band Radio!*

MFJ-105C, accurate 24 hour UTC quartz *wall clock* with large 10 inch face.

MFJ Antenna Switches

MFJ-1704
$59⁹⁵

MFJ-1702C
$21⁹⁵

MFJ-1704 heavy duty antenna switch lets you select 4 antennas or ground them for static and lightning protection. Unused antennas automatically grounded. Replaceable lightning surge protection device. Good to 500 MHz. 60 dB isolation at 30 MHz.

MFJ-1702C for 2 antennas.

World Band Radio Kit

MFJ-8100K
$59⁹⁵ *kit*

MFJ-8100W
$79⁹⁵ *wired*

Build this *regenerative* shortwave receiver *kit* and listen to shortwave signals from all over the world with just a 10 foot wire antenna.

Has RF stage, vernier reduction drive, smooth regeneration, five bands.

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CIRCLE 120 ON READER SERVICE CARD

Pop'Comm's World Band Tuning Tips

December 1999

This listing is designed to help you hear more shortwave broadcasting stations. The list includes a variety of stations, including international broadcasters beaming programs to North America, others to other parts of the world, as well as local and regional shortwave stations. Many of the transmissions listed here are not in English. Your ability to receive these stations will depend on time of day, time of year, your geographic location, highly variable propagation conditions, and the receiving equipment used.

AA, FF, SS, GG, etc. are abbreviations for languages (Arabic, French, Spanish, German). Times given are in UTC, which is five hours ahead of EST, i.e. 0000 UTC equals 7 p.m. EST, 6 p.m. CST, 4 p.m. PST.

UTC	Freq.	Station/Country	Notes
0000	4649	Radio Santa Ana, Bolivia	SS
0000	9580	Radio Yugoslavia	
0000	9745	HCJB, Ecuador	
0000	11615	Radio Prague, Czech Republic	
0000	11850	Radio Yugoslavia	
0000	11910	Radio Oman	AA
0030	4755	Radio Educacao Rural, Brazil	PP
0030	9655	Radio Austria Int'l	
0030	9855	Radio Vilnius, Lithuania, via Germany	
0100	4885	Radio Clube do Para, Brazil	PP
0100	7300	Radio Slovakia Int'l	
0100	9560	Radio Budapest, Hungary	
0100	9570	China Radio Int'l, via Cuba	
0100	9660	Radio Japan, via Gabon	
0100	12050	Voice of Russia	
0130	5678	Radio Ilucan, Peru	SS
0130	5770	Radio Miskut, Nicaragua	SS
0130	6205	Radio Rossi, Russia	RR
0130	7160	Radio Tirana, Albania	
0130	7450	Voice of Greece	Greek/EE
0130	9575	Radio Medi-Un, Morocco	AA
0130	11915	Radio Gaucha, Brazil	PP
0200	3210	Radio Exterior de Espana, Spain, via Costa Rica	SS
0200	4800	Radio Buenas Nuevas, Guatemala	SS
0200	4985	Radio Brazil Central	PP
0200	5077	Caracol Colombia	SS
0200	5965	Radio Havana Cuba	SS
0200	9445	Voice of Turkey	TT
0200	9615	Radio Cultura, Brazil	PP
0200	11710	RAE, Argentina	
0200	11725	Radio Romania Int'l	
0200	11800	RAI, Italy	
0230	4955	Radio Nacional, Colombia	SS
0230	5386	Radio Huarmaca, Peru	SS
0230	9495	Radio Sweden	
0230	9840	Radio Budapest, Hungary	HH
0230	11945	UAE Radio, Dubai	
0245	11785	Qatar Broadcasting Service	AA
0300	3300	CHU, Canada (time station)	
0300	4919	Radio Quito, Ecuador	SS
0300	4980	Ecos del Torbes, Venezuela	SS
0300	7125	Voice of Russia	
0330	4830	Radio Tachira, Venezuela	SS
0330	4845	Radio K'ekchi, Guatemala	SS
0330	7465	WRMI, Florida	
0330	9830	Voice of Vietnam, via Russia	
0400	4820	Radio Botswana	vernacular
0400	4950	Radio Nacional, Angola	PP
0400	5040	Georgian Radio, Georgia Rep.	Georgian
0400	5055	RFO, French Guiana	FF
0400	5890	Voz de Misiones Internacionales, Honduras	SS
0400	6055	Radio Exterior de Espana, Spain	SS
0400	6065	Christian Voice, Zambia	
0400	9435	Kol Israel	
0400	9610	Swiss Radio Int'l	
0400	11740	Radio Romania Int'l	
0400	11835	Radio Austria Int'l, via Canada	
0430	5020	La Voix du Sahel, Niger	FF
0500	4770	Radio Nigeria	
0500	4850	Cameroon Radio TV	FF
0500	5025	Radiodifusion du Benin	FF
0500	7255	Voice of Nigeria	
0500	11720	Channel Africa, South Africa	
0500	13820	Croatian Radio	EE/Croatian
0500	15415	Radio Australia	
0500	17580	RTBF, Belgium, via Germany	M-F
0530	5004	Radio Nacional, Equatorial Guinea	SS
0530	5970	Radio Bucharest, Romania	
0530	9555	Radio Liberty, Germany	RR
0530	9810	Radio Kiribati	
0600	4915	Ghana Broadcasting Corp.	
0600	4920	La Voz Evangelica, Honduras	SS
0600	5100	Radio Liberia Int'l	
0600	7230	Radio Japan, via United Kingdom	
0630	6015	Radio Austria Int'l, via Canada	
0630	7345	Radio Prague, Czech Republic	GG
0700	4765	Radio Rural Santarem, Brazil	SS
0700	6185	Radio Educacion, Mexico	SS

UTC	Freq.	Station/Country	Notes
0700	9410	BBC, England	
0700	9440	Radio Slovakia Int'l	
0700	9870	Trans World Radio, Monaco	
0700	9885	Swiss Radio Int'l	
0700	9925	Radio Vlaanderen Int'l. Belgium	
0700	15115	HCJB, Ecuador	
0730	5020	Solomon Islands Broadcasting Corp.	
0730	11730	HCJB, Ecuador	
0730	6115	Radio Union, Peru	SS
0800	4935	Radio Capixaba, Brazil	PP
0800	6140	Deutsche Welle, Germany	
0800	6155	Radio Australia	
0800	9700	Radio New Zealand Int'l	
0800	9710	Radio Australia	
0900	4825	Radio Educadora, Brazil	PP
0900	6060	Radio Nacional, Argentina	SS
0930	3925	Radio Tampa, Japan	JJ
0930	5055	Faro del Caribe, Costa Rica	SS
0930	6010	Radio Mil, Mexico	SS
0930	6025	Radio Illimani, Bolivia	SS
0930	6105	Radio Cultura, Brazil	SS
0930	11635	Far East Broadcasting Co., Philippines	
1000	3315	Radio Manus, Papua New Guinea	Pidgin
1000	6458	Armed Forces RTV Service, Puerto Rico	USB
1000	6674	Radio Super Nueva Sensacion, Peru	SS
1000	9840	Voice of Vietnam	
1000	9865	Trans World Radio, Guam	
1030	4915	Radio Cora, Peru	SS
1030	6090	Radio Esperanza, Chile	SS
1030	9545	Radio Universo, Brazil	PP
1100	9540	Radio Polonia, Poland	RR
1100	11690	Radio Voz Cristiana, Chile	SS
1130	4754	Radio Republik Indonesia, Ujung Pandang	II
1130	4890	NBC, Papua New Guinea	
1130	15700	Radio Bulgaria	
1200	9545	Voice of America, via Tinian Island, N. Marianas	CC/KK
1200	9580	Radio Australia	
1200	9830	Croatian Radio	
1200	11745	Voice of Free China, via WYFR	
1200	11760	Radio Havana Cuba	SS
1200	11815	Radio Exterior de Espana, Spain	SS
1200	12015	Voice of Mongolia	
1200	13650	CBC via Radio Canada Int'l	
1200	17775	Radio Tashkent, Uzbekistan	
1230	9525	Radio Polonia, Poland	
1230	12005	HCJB, Ecuador	
1230	13670	Radio Korea, S. Korea	
1230	13730	Radio Austria Int'l	
1230	15225	Voice of Turkey	
1230	17630	Vatican Radio	CC
1230	17895	BBC, via Antigua	
1300	9615	KNLS, Alaska	
1300	13580	Radio Prague, Czech Republic	
1330	9945	Voice of Russia	AA
1330	11690	Radio Jordan	AA
1330	13790	Deutsche Welle, Germany, via Portugal	AA
1330	17505	Radio Sweden	
1400	17615	Kol Israel	
1500	9515	BBC, England, via Canada	
1500	11660	Radio Australia	
1500	11905	Sri Lanka Broadcasting Corporation	Hindi
1500	11960	Radio Belarus	
1500	15084	Voice of Islamic Republic of Iran	Farsi
1500	17840	Channel Africa, South Africa	
1530	11695	Far East Broadcasting Assn., Seychelles	EE, others
1600	8000	Voice of Sudan (clandestine)	6010
1600	11570	Radio Pakistan	
1600	15210	Radio France Int'l	
1600	17510	Radio Pakistan	
1600	21500	Voz Cristiana, Chile	SS
1630	11615	Radio France Int'l	
1630	13675	UAE Radio. Dubai, UAE	
1700	17860	Channel Africa, South Africa	
1800	9780	Republic of Yemen Radio	AA
1830	9495	Radio 21 Pristina, via R. Netherlands	Albanian
1900	12070	Voice of Russia	RR
1900	15476	Radio Nacional Arcangel San Gabriel, Antarctica	SS
1930	13720	Voice of Islamic Republic of Iran	
2000	9390	Reshet Bet home service, Israel	HH
2000	11820	Qatar Broadcasting Service	AA
2000	13710	Swiss Radio Int'l, via Fr. Guiana	
2000	15290	Radio Exterior de Espana, Spain	SS
2000	17895	Qatar Broadcasting Service	AA
2030	9022	Voice of Islamic Republic of Iran	
2030	11990	Radio Kuwait	
2030	13610	Radio Damascus, Syria	
2030	13750	Radio Havana Cuba	
2030	13750	Radio Havana Cuba	
2030	15160	Radio Algiers Int'l, Algeria	
2030	15435	Radio Jamahirya, Libya	AA
2100	9875	Deutsche Welle, Germany, via Rwanda	
2100	11815	Radio Brazil Central	PP
2100	11890	Radio Oman	AA
2100	15345	RT Marocaine, Morocco	AA
2100	15505	Radio Kuwait	AA
2100	17825	Radio Japan	
2130	11830	Vatican Radio	
2130	11845	Radio Finland Int'l	Finnish
2130	11975	Voice of America, via Sao Tome	
2130	17550	Vatican Radio	II
2200	7410	All India Radio	
2200	11715	All India Radio	
2200	15305	Radio Canada Int'l	
2215	7205	Cyprus Bc Corp., via BBC, Cyprus	GG, Fri-Sa-Su
2230	12085	Radio Damascus, Syria	AA
2300	5975	BBC, England, via Antigua C56	
2300	5995	China Radio Int'l, via Cuba	
2300	6050	Radio Clube Paranaense, Brazil	PP
2300	7210	ORTB, Benin	FF
2300	9400	Radio Bulgaria	FF
2300	9590	BBC via Canada	
2300	11700	Radio Bulgaria	
2300	17680	Voz Cristiana, Chile	SS
2330	6165	Radio Netherlands via Bonaire	
2330	7125	RTV Guineenne, Guinea	FF
2330	9755	Radio Canada Int'l	
2330	11040	China National Radio, China	CC
2330	13625	All India Radio	
2330	13650	Radio Pyongyang, North Korea	SS
2330	15345	RAE, Argentina	SS
2330	15375	Voice of Africa, Libya	

■

product parade

Review Of New, Interesting And Useful Products

MFJ's new SWR/Power meter handles up to 200 watts power in the 144–440-MHz range.

New MFJ VHF/UHF/ SWR/Power Meter

MFJ's new power meter handles 200 watts and measures SWR and power in three power ranges: 15, 60, and 200 watts. The meter is multi-colored and covers 144–440 MHz. Insertion loss is 0.3dB or lower with 50-ohm impedance. Two SO-239 connectors are provided on the new MFJ meter, which is super-compact measuring (HWD) 3" x 3.75" x 1.25".

The new MFJ power meter carries MFJ's famous one-year No matter What™ limited warranty, meaning MFJ will repair or replace, at their option, the compact SWR/Power meter no matter what for one full year.

For more information or your nearest dealer, call toll-free 800-647-1800 or write MFJ Enterprises, Inc., P.O. Box 494, Mississippi State, MS 39762. You can also call MFJ at 601-323-6551 or check out their Website at <http://www.mfjenterprises.com>. Be sure to tell them you read about it in *Pop'Comm*!

Old Time Radio!

If you were around during the '40s–'60s, you had first-hand experience with old time radio. Perhaps you remember, or have heard your parents mention Amos 'N Andy, Fibber McGee, Jack Benny, Burns and Allen, and others. And if you yearn for the good old days or if you're a bit younger and want to experience radio's early years, you need Computer-Aided Technologies nice selection of CDs with over 15 gigabytes of MP3 and RealAudio files. They're all jam-packed with Old Time Radio files. Each CD has over 60 of your favorite old time radio programs and all CDs are categorized by type of material.

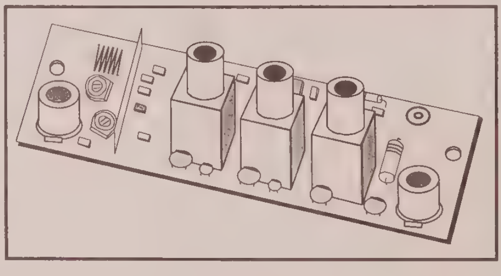
You can select from CDs that contain comedy, detective, drama, mystery, Sci-Fi, Super Heroes, Western, and more. Plus, all CDs include the latest RealPlayer and WinAmp Shareware Software.

All CDs are $29.95 with $5 S&H per order ($7.50 foreign) from Computer-Aided Technologies, P.O. Box 18285, Shreveport, LA 71138 or you can E-mail them at <scancat@scancat.com> or FAX your order to 318-686-0449.

Plagued By Intermod? Hamtronics Can Help!

If you have intermod problems with a VHF receiver, Hamtronics can help you. Nearby FM broadcast stations, paging transmitters, or other strong out-of-band signals can overload the front end of your receiver. Adding just a filter ahead of a receiver may block the interfering signals, but it will degrade the sensitivity of the receiver because of its insertion loss. However, the new LNP series of preselectors has been designed with a low-noise preamp ahead of the filter to establish a low noise figure before the signal reaches the filter.

The filter circuit comprises a sharp three-pole L-C filter which is optimized for the particular band of interest. This is in addition to the input filter in the preamp circuit. The preamp circuit provides just enough gain to override the insertion loss of the filter circuit with a little to spare so the receiver can maintain its good dynamic range characteristics.

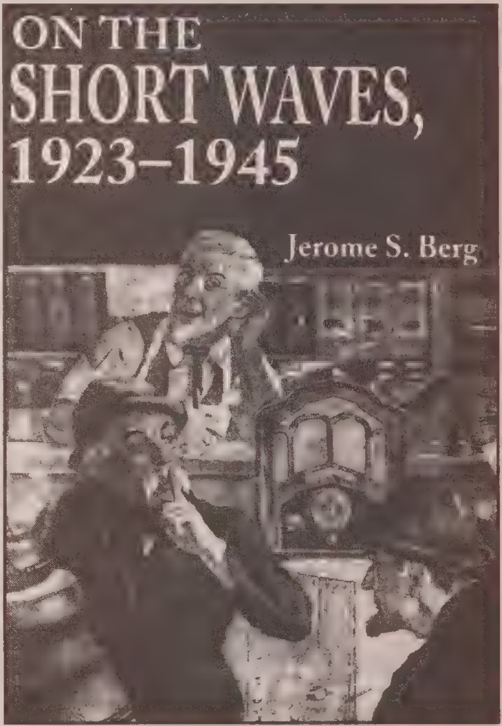


Got intermod? Try Hamtronic's new low-noise receiver preselectors that cost $39 for a factory wired and tested unit.

Models are available for all popular bands from 132 to 180 MHz, including the 137-MHz weather satellite band and the 144-MHz ham band. Alignment to your frequency is very easy. Net gain is nominally 8dB and noise figure is 0.6dB. The new Hamtronics preselector is $39 for a factory-wired and tested unit. For more details, contact Hamtronics, Inc., 65 Moul Road, Hilton, NY 14468-9535 or call them at 716-392-9430.

On The Shortwaves, 1923–1945: Broadcast Listening In The Pioneer Days Of Radio

Here's a 280 page hardbound book that includes more than 150 photos and illustrations that's an absolute must if you're interested in radio's golden days. Author



Be sure to check out the new book by Jerome Berg, On The Shortwaves, 1923–1945, *if you're interested in the historical aspect of international radio listening.*

BY HAROLD ORT AND R.L. SLATTERY

Jerome S. Berg has done such a superb job with this impressive book, that we found it hard to put down!

Throughout the history of radio, shortwave has been a mainstay, from its role as a news source and propaganda tool, but until you get your hands on this one-of-a-kind book by McFarland & Co. publishers, you haven't read the whole story of radio. Even included is a complete chapter on verifications — QSLs — done in such an easy-read way with great samples of oldtime QSLs from stations such as the BBC and Radio Excelsior from 1936!

For more information on this highly informative book that sells for $42.50 (plus $4 s/h), contact the publisher directly at Box 611, Jefferson, NC 28640. Phone 800-253-2187 or FAX 336-246-5018. You can also check out the various Internet booksellers for *On The Shortwaves, 1923-1945*.

New 1000-Channel RadioShack Desktop Scanner

RadioShack just released the new 1000-channel PRO-2052 scanner that follows analog Motorola I, II, I/II, and GE/Ericsson (EDACS) trunked systems. Coverage is 29–54, 108–512, 806–960 (less cellular), 1,240–1,300 MHz.

RadioShack's new 1000-channel desktop scanner follows analog Motorola I, II, I/II, and GE/Ericsson trunked systems and includes a multitude of other neat features.

Features include built-in NOAA weather radio alert with SAME feature (no display), built-in RS-232C serial interface permits computer control, uploading, downloading, and cloning (requires software and cable, available separately). Includes detachable indoor antenna and nationwide trunked frequency list. Dimensions (HWD) approx. 2 3/4" x 8" x 7 1/2".

For more information on RadioShack's new PRO-2052 scanner, (RadioShack Catalog No. 20-432) which retails for $369.99, contact your nearest RadioShack store or visit them online at <Radioshack.com>.

New FM Atlas Released

Bruce F. Elving has produced a 1999 version of the *FM Atlas*, a 240-page book with text, maps, and directory listings for 10,500 FM stations of North America. The book is recommended for industry people, folks who travel and want to listen to their program format of choice, or DX hobbyists who enjoy tuning in and identifying all the FM stations it is possible to receive from a given location.

Started in 1971 as the *FM Station Atlas* when author Bruce F. Elving lived in Milwaukee, the title was changed to *FM Atlas* and operations eventually moved to the Duluth, Minnesota, area. The 1999 edition includes a summary of FM broadcast developments culled from the previous two years of Elving's companion publication, *FMedia!* It also includes new and updated maps of the U.S., Canada, and Mexico showing FM station locations, call letters and frequencies, and directories by geography and frequency. Program formats, technical parameters,

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VERSION 7.5

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NOW SUPPORTS
AOR AR16B - AR8200B
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SCANCAT GOLD FOR WINDOWS "SE"
(Surveillance-Enhanced)

FEATURES

- **Selective Sound Recording using PC-compatible sound card. "Point & Shoot" playback by individual hits.**
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- Detailed logging to ASCII type files with DATE, TIME, Sig Str, Air Time.
- 6 New sweep Analysis Functions.
- Exclusive "MACRO" control by frequency of Dwell, Hang, Resume. Sig. Treshhold and even 6 separate programmable, audible alarms.
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- Run as many as 6 different CI-V addressable radios as "Master/Slave".
- New! Scheduling/Recording Functions.

With Scancat Gold for Windows "SE," your spectrum never looked so good! Load virtually "any" database and Scancat "SE" will examine your database, plot each and every frequency, no matter what the range...and "paint" the entire analysis on your screen.

SEVERAL GRAPHICAL ANALYSIS MODES AVAILABLE

- By Signal Strength per frequency in a "histograph".
- By Signal Strength plotted in individual dots.
- By Number of hits per frequency in a "histograph".
- *IF THAT ISN'T ENOUGH, try this...Multicolored, 3-D "Spatial/Landscape".*

SCANCAT GOLD "SE"...$159.95 + S & H*   UPGRADE SCANCAT GOLD V7.5 "SE"...$59.95 + S & H*

SCANCAT'S WINDOWS FEATURES

- Unattended Logging of frequencies
- Scan Create Disk Files.
- Spectrum Analysis to Screen OR Printer.
- Supports PerCon, Mr. Scanner, and Betty Bearcat CD Roms.
- Scan VHF & HF Icom's Simultaneously.
- LINK up to 100 Disk files or ranges.
- MULTIPLE search filters for Diskfile Scanning.
- New – Programmable Favorite Frequency "Quick Buttons"
- Search by CTCSS & DCS tones with OS456/535 or DC440 (ICOM only).
- INCLUDES several large shortwave and VHF/UHF databases

SCANCAT GOLD FOR WINDOWS (NON-"SE")......$99.95 + S & H*   UPGRADE TO V7.5 ....$29.95 + S & H*

All the features you EXPECT from a true Windows application such as:

- VERSATILE "Functional" spectrum analysis. NOT just a "pretty face". Spectrum is held in memory for long term accumulation. Simply "mouse over" to read frequency of spectrum location. "CLICK" to immediately tune your receiver. You can even accumulate a spectrum from scanning DISKFILES of random frequencies!
- DIRECT scanning of most DBASE, FOXPRO, ACCESS, BTRIEVE files WITHOUT "importing".
- UNIQUE database management system with moveable columns. Even SPLIT columns into doubles or triples for easy viewing of ALL important data on one screen.
- Exclusive 'SLIDE RULE' tuner. Click or 'skate' your mouse over our Slide-Tuner to change frequencies effortlessly! OR use our graphical tuning knob.

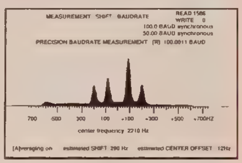
*$5 U.S. $7.50 FOREIGN

HOKA CODE-3 GOLD

"The Standard Against Which All Future Decoders Will Be Compared"

Many radio amateurs and SWLs are puzzled! Just what are all those strange signals you can hear but not identify on the Short Wave Bands? A few of them such as CW, RTTY, Packet and Amtor you'll know - but what about the many other signals?

There are some well known CW/RTTY Decoders but then there is CODE-3 GOLD. It's up to you to make the choice, but it will be easy once you see CODE-3 GOLD. All units have an exclusive auto-classification module that tells YOU what you're listening to AND automatically sets you up to start decoding. No other decoder can do this on ALL the modes listed below - and most more expensive decoders have no means of identifying ANY received signals! Why spend more money for other decoders with FEWER features? CODE-3 GOLD works on any IBM compatible computer with MS-DOS with at least 640kb of RAM, and a VGA monitor. CODE-3 GOLD includes software and a complete audio to digital FSK converter.



Simulated Speed Measurement Module

Modes Included in BASIC package

- Morse ★
- RTTY/Baudot/Murray ★
- Sitor CCIR 625/476-4 ARQ - Navtex ★
- AX25 Packet ★
- Facsimile all RPM (up to 16 gray shades at 1024 x 768 pixels ★
- Hellscreiber-Synch/Asynch ★
- ASCII ★
- Pactor ★
- WEFAX ★

ADDITIONAL Modes included in STANDARD and PROFESSIONAL package

- Autospec - Mk's I & II
- DUP-ARQ Artrac
- Twinplex
- ARQ6-90/98
- SI-ARQ/ARQ-S
- SWED-ARQ-ARQ-SWE
- ARQ-E/ARQ1000 Duplex
- ARQ-N-ARQ1000 Duplex Variant
- ARQ-E3-CCIR519 Variant
- POL-ARQ 100 Baud Duplex ARQ
- TDM242/ARQ-M2/4-242
- TDM342/ARQ-M2/4
- FEC-A FEC100A/FEC101
- FEC-S • FEC1000 Simplex
- Sports info 300 baud ASCII
- Sitor • RAW (Normal Sitor but without Synch.
- ARQ6-70
- Baudot F788N
- Piccolo
- Coquelet
- 4 special ARQ & FEC systems: TORG-10/11, ROU-FEC/ RUM-FEC, HC-ARQ (ICRC) and HNG-FEC
- SYNOP decoder

Additional CODE-3 GOLD PROFESSIONAL Analysis Tools

- Power Spectrum
- Waterfall Display
- AD Spectrum
- Oscilloscope • Oscilloscope XY
- Oscilloscope AFT (Amplitude, Freq., Phase)
- Phase Plane
- Correlation MOD
- Correlation Bit

CODE-3 GOLD is the most sophisticated decoder available for ANY amount of money.

CODE-3 GOLD VHF/SW DECODER $450.00
Includes POCSAG & ACARS Plus *Modes/Options
BASIC

CODE-3 GOLD VHF/SW DECODER $595.00
With ALL Modes/Options
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CODE-3 GOLD PROFESSIONAL $795.00
With ALL Modes/Options Plus Professional Analytical Package
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and coverage radii are figured out for all of the stations. Stations that broadcast in stereo are listed that way, as well as those suffering from the disease of being monophonic. The book is also unique in showing which stations have an SCSubcarrier at 57, 67, or 92 kHz, as well as those without an SCA. FM translators and boosters are also shown on the maps and in the directories following each state.

The latest book was printed by McNaughton & Gunn, Saline, MI, and is available at $19.99 plus $2 shipping from *FM Atlas*, P.O. Box 336, Esko, MN 55733-0336, phone 218-879-7676.

New 500-Channel RadioShack Multi-Trunking Scanner

The new PRO-92 handheld scanner follows analog Motorola I, II, I/II, GE/Ericsson, and Johnson/Uniden trunked systems. Features of this 500-channel scanner include conventional, as well as trunked, scanning capability. This scanner scans up to 10 trunked systems at the same time or trunked and conventional channels together.

Additional user-friendly features include weather alert with SAME (Specific Area Message Encoding), CTCSS/DSC decode and cloning interface, ability to enter names of services into radio's memory and see them on the four-line display as unit scans. And with an optional cable, all memory information can be cloned from one PRO-92 to another. Frequency coverage is 29–54, 108–174, 380–512, 806–960 (less cellular). Requires six "AA" batteries (not included) or adapter. Jacks include earphone, antenna (BNC), power, and PC interface. Unit includes detachable rubber duck antenna and belt clip.

For more information on the new PRO-92, which retails for $349.99, (RadioShack catalog number 20-522) visit your local RadioShack store or check out RadioShack online at <radioshack.com>.

MULTI-SYSTEM TRUNKING
FORT WORTH
FW TRAFFIC
500 CHANNELS
RadioShack
PRO-92

The PRO-92 handheld scanner from RadioShack is a 500-channel scanner that includes conventional, as well as trunked, scanning capability.

Get Full Trunking Control Through Software And The Bearcat BC-245!

Computer-Aided Technologies just announced support for the newest addition to their scanner lineup, the Bearcat BC-245 Trunktracker II. This unique handheld scanner from Uniden has 300 memories that can be programmed for either conventional or trunking channels (including EDACS and four Motorola systems). Scancat can control all the conventional operations of the BC-245, such as scanning, logging, spectrum analysis, etc. Plus, it permits you to load the radio's memory banks with all your favorite trunking frequencies (either Motorola or EDACS systems). Of course, Scancat can also read the radio's memory contents to files, including trunking information.

With Scancat's support of over 45 radios from over 10 manufacturers, your software dollars go a long way! There's no need to buy several programs — one for each radio you own. Chances are high that Computer-Aided Technologies supports all your existing scanner and receiver equipment. It's all supported in one program — no need for extra "drivers." And if you already have the BC-895, they support that as well!

With the release of Version 7.5.5, Scancat fully supports all the trunking features in addition to convention scanning, plus: a completely separate scanning module just for the 245 TrunkTracker, auto-logging (with duplicate check) of all group numbers as they become active, automatically place "standard descriptions" of trunking groups into the database, tag favorite "groups" and auto-program them to any bank, user-selectable colors, hit counter and time stamp, 50-character description plus comments, SCAN trunkgroups and change banks while trunking with click of mouse, sort on any field in ascending or descending order, and export to command delimited "SDF" files.

Scancat-Gold for Windows "SE" is $159.95 (upgrade for $59.95) and Scancat-Gold for Windows is $99.95 (upgrade for $29.95) from Computer-Aided Technologies, P.O. Box 18285, Shreveport, LA 71138 or order toll-free in the U.S. at 888-722-6228 or 318-687-4444. You can also FAX them at 318-686-0449 or visit their Website at <http://www.scancat.com>.

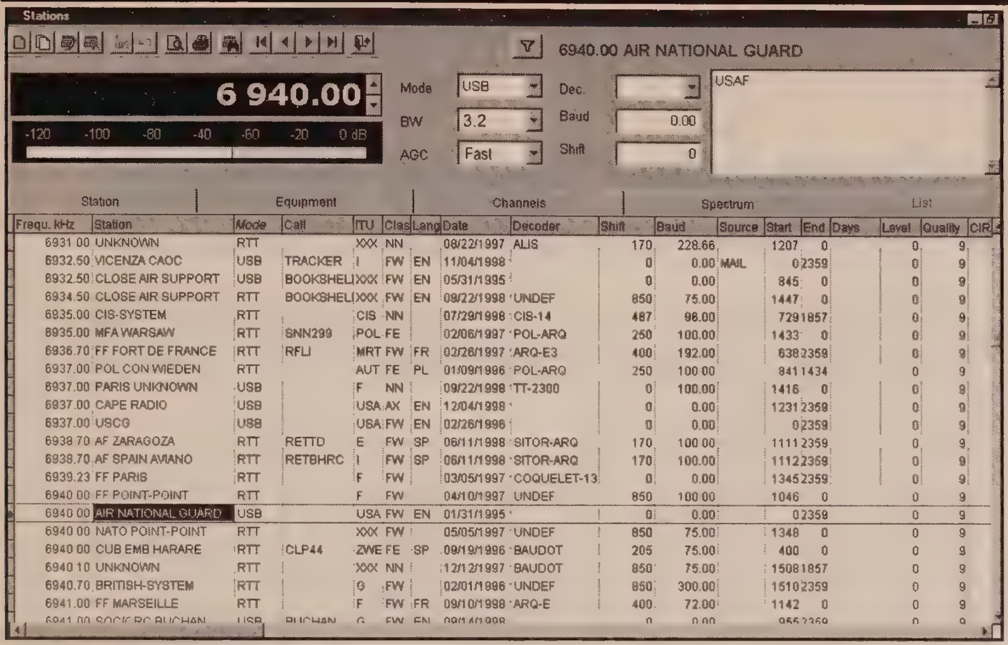
DUAL TRUNKING
1000 CHANNELS
RadioShack
PRO-94

RadioShack's new PRO-94 handheld scanner has 20 priority channels and service search with preset frequencies.

1000-Channel PRO-94 Handheld

RadioShack's new PRO-94 dual-trunking handheld scanner follows analog Motorola I, II, I/II, and GE/Ericsson (EDACS) trunked systems. Coverage (beyond PRO-92) includes 220-MHz and 1,240-MHz ham bands. Memory is arranged in 20 banks of 50 channels each. Scanner has 20 priority channels and service search with preset frequencies for police, fire, weather, aircraft, marine, and ham radio.

For more information on the new $299.99 PRO-94 scanner (RadioShack Catalog No. 20-524), contact your nearest RadioShack store or visit them online at <Radioshack.com>.



6940.00 AIR NATIONAL GUARD

6 940.00

Mode USB

BW 3.2

AGC Fast

Dec.

Baud 0.00

Shift 0

USAF

Frequ. kHz	Station	Mode	Call	ITU	Clas	Lang	Date	Decoder	Shift	Baud	Source	Start	End	Days	Level	Quality	CIR
6931.00	UNKNOWN	RTT		XXX	NN		08/22/1997	ALIS	170	228.66		1207	0		0	9	
6932.50	VICENZA CAOC	USB	TRACKER	I	FW	EN	11/04/1998		0	0.00	MAIL	0	2359		0	9	
6932.50	CLOSE AIR SUPPORT	USB	BOOKSHELI	XXX	FW	EN	05/31/1995		0	0.00		845	0		0	9	
6934.50	CLOSE AIR SUPPORT	RTT	BOOKSHELI	XXX	FW	EN	09/22/1998	UNDEF	850	75.00		1447	0		0	9	
6935.00	CIS-SYSTEM	RTT		CIS	NN		07/29/1998	CIS-14	487	96.00		729	1857		0	9	
6935.00	MFA WARSAW	RTT	SNN299	POL	FE		02/06/1997	POL-ARQ	250	100.00		1433	0		0	9	
6936.70	FF FORT DE FRANCE	RTT	RFLI	MRT	FW	FR	02/26/1997	ARQ-E3	400	192.00		638	2359		0	9	
6937.00	POL CON WIEDEN	RTT		AUT	FE	PL	01/09/1996	POL-ARQ	250	100.00		841	1434		0	9	
6937.00	PARIS UNKNOWN	USB		F	NN		09/22/1998	TT-2300	0	100.00		1416	0		0	9	
6937.00	CAPE RADIO	USB		USA	AX	EN	12/04/1998		0	0.00		1231	2359		0	9	
6937.00	USCG	USB		USA	FW	EN	02/26/1996		0	0.00		0	2359		0	9	
6938.70	AF ZARAGOZA	RTT	RETTD	E	FW	SP	06/11/1998	SITOR-ARQ	170	100.00		1111	2359		0	9	
6938.70	AF SPAIN AVIANO	RTT	RETBHRC	I	FW	SP	06/11/1998	SITOR-ARQ	170	100.00		1112	2359		0	9	
6939.23	FF PARIS	RTT		F	FW		03/05/1997	COQUELET-13	0	0.00		1345	2359		0	9	
6940.00	FF POINT-POINT	RTT		F	FW		04/10/1997	UNDEF	850	100.00		1046	0		0	9	
6940.00	AIR NATIONAL GUARD	USB		USA	FW	EN	01/31/1995		0	0.00		0	2359		0	9	
6940.00	NATO POINT-POINT	RTT		XXX	FW		05/05/1997	UNDEF	850	75.00		1348	0		0	9	
6940.00	CUB EMB HARARE	RTT	CLP44	ZWE	FE	SP	09/19/1996	BAUDOT	205	75.00		400	0		0	9	
6940.10	UNKNOWN	RTT		XXX	NN		12/12/1997	BAUDOT	850	75.00		1508	1857		0	9	
6940.70	BRITISH-SYSTEM	RTT		G	FW		02/01/1996	UNDEF	850	300.00		1510	2359		0	9	
6941.00	FF MARSEILLE	RTT		F	FW	FR	09/10/1998	ARQ-E	400	72.00		1142	0		0	9	
6941.00	SOCIC RC BUCHAN	USB	BUCHAN	G	FW	EN	09/14/1998		0	0.00		955	2359		0	9	

The new RSM5 program from shoc® is a powerful database and computer-supported receiver, transceiver, and decoder control program for Windows that includes 40,000 HF and 34,000 VHF/UHF frequencies.

Need Help? Try shoc® RSM5 Program

This database and computer supported receiver, transceiver, and decoder control program is for the MS-Windows operating system. An actual, professional database with 40,000 HF and 34,000 VHF/UHF frequencies is included in the product. Based on many years of experience in the monitoring business, the program includes scanning, automatic station identification, memory (channel) manager, spectrum and frequency display, transmitter control, decoder control, and many other applications.

Together with a receiver and decoder the shoc® RSM RadioSpectrumManager offers you a very powerful listening and monitoring tool. The stations to be monitored are found more rapidly in a data base than by looking them up in various books. To perform a selection is nearly impossible when using books. All selected stations are directly displayed onscreen ready to be monitored. The software makes it possible to search the database using criteria such as the name of the station, callsign, modulation type, country, language, type of transmission, time, and others. Stations fulfilling the criteria are displayed in a window. With a "mouse-click," you set the receiver and decoder to the selected stations. Doing a manual search in "Ident Mode," the software will display information when a database entry is found close to the frequency selected.

New features of shoc® RSM include: LAN/WEB Setup and Uninstall, New database structures, Multiple receivers and decoders, Import of the Klingenfuss '99 Utility database, Import of BBC Monitoring Service, ILG, W41PC and W40 support, Office Compatible User Interface, Standard Toolbar, Incremental Search, including AutoSort on all Grids, and much more.

The price is $172 for the economic version and $309 for the standard version. A professional version is also available. VISA/Mastercard/American Express are welcomed. To order, or for additional information, contact shoc Inc., Gfell, CH-8499 Sternenberg, Switzerland, call +41-52 394 12 55 or FAX +41-52 394 12 59. You can also E-mail shoc at <sales@shoc. ch> or visit the Website at <www.shoc.ch>.

The BeaconFinder

Many of you enjoy the excitement of tuning the spectrum below the AM broadcast band (0–530 kHz). This region of the spectrum is filled with signals from navigation beacons, time stations, license-free experimenters, and numerous utility stations. Identifying these signals can be a challenge, however, as they are not often listed in conventional frequency guides.

The *BeaconFinder* focuses specifically on this band. It lists the frequency, ID and location for hundreds of longwave stations that can be heard in North America, including commonly-logged foreign stations. An ID-to-frequency cross-reference allows the user to locate a station when only the frequency or ID is known. In addition, a bonus section lists utility stations operating between 1600 and 1800 kHz.

The *BeaconFinder* contains over 60 pages of listings and comes ready for three-ring binding. Copies of the booklet are available for $11.95 postpaid in U.S. funds from Kevin Carey, P.O. Box 56, West Bloomfield, NY 14585. A companion 3.5-inch diskette (RTF format) with searchable station listings is also available for $8.95 when purchased with the *BeaconFinder*, or $11.95 separately. You can also contact Kevin online at <lowband@gateway.net>. Tell him you read about it in *Pop'Comm*!

EDXP AsiaLink

How often have you wanted to quickly call up the latest external schedule of your favorite shortwave broadcaster, without having to waste time and money trying to remember the URL? The EDXP (Electronic DX Press) AsiaLink may be your answer!

It's a menu-driven listing of current URLs for External service schedules of various international broadcasters in Asia, the Far East, the Indian sub-continent, the Middle East, and the Pacific. Unlike some other lists, AsiaLink does not consist of empty "shells," nor of old, non-working, or outdated links! You may visit the EDXP AsiaLink at <http://members.tripod.com/~bpadula/asialink.html>. It may also be called up from the signpost in the EDXP Website at <http://members.tripod.com/~bpadula/edxp.html>. AsiaLink was created, researched, and compiled by Mick Ogrizek, Ballan, Victoria, Australia, for the EDXP.

Cop Talk Correction

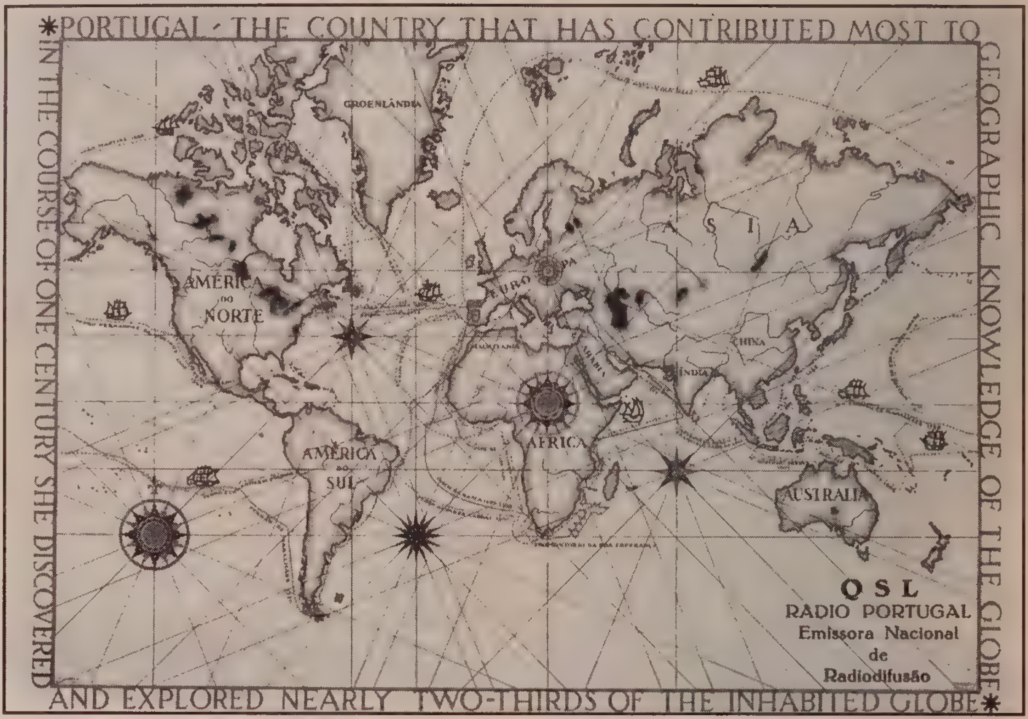
The address for ordering the Cop Talk book in last month's "Product Parade" was incorrect.

You can order the book directly from
CRB Research, P.O. Box 56,
Commack, NY 11725.
Visa/ Mastercard welcome.
Phone: 516-543-9169

the listening post

What's Happening: International Shortwave Broadcasting Bands

The FCC Says "Yes" To Another U.S. Religious SW Station


PORTUGAL - THE COUNTRY THAT HAS CONTRIBUTED MOST TO GEOGRAPHIC KNOWLEDGE OF THE GLOBE
IN THE COURSE OF ONE CENTURY SHE DISCOVERED AND EXPLORED NEARLY TWO-THIRDS OF THE INHABITED GLOBE
GROENLÂNDIA
AMÉRICA DO NORTE
EUROPA
ÁSIA
CHINA
ÍNDIA
ÁFRICA
AMÉRICA DO SUL
AUSTRÁLIA
Q S L
RADIO PORTUGAL
Emissora Nacional
de
Radiodifusão

"The Voice of the West" was the slogan Radio Portugal used back in Cold War days. Remember the closing line — "The West can, and will, win!"

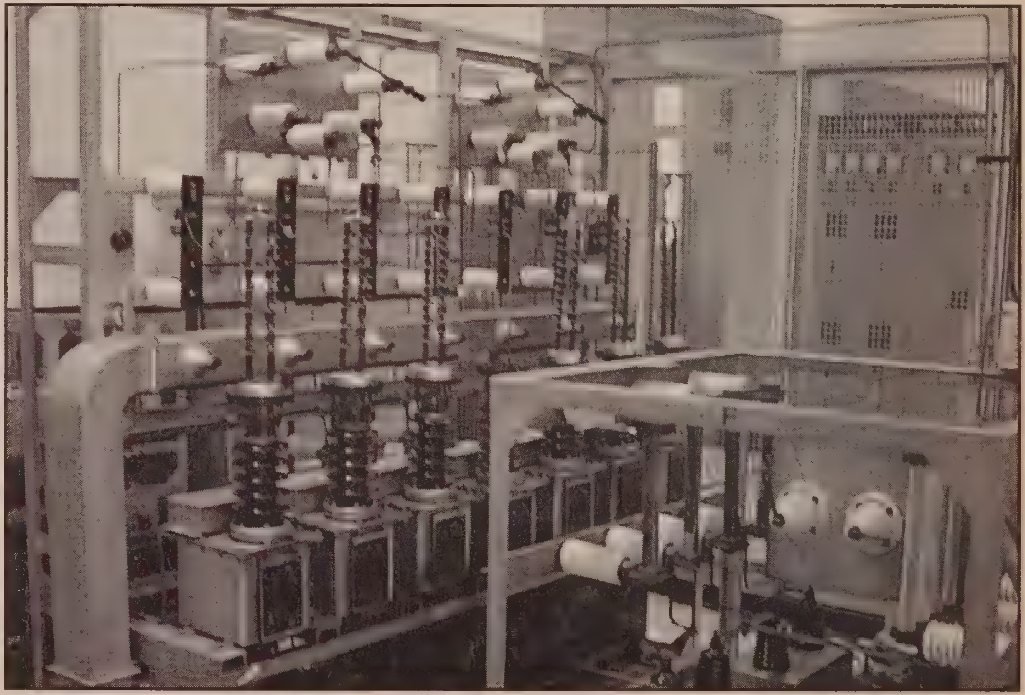
How many does this make? WTJC, based in Newport, North Carolina, was set to begin testing a 50-kW transmitter just as this column was given the final touches. The original frequency was to be 9790, but that was changed to 9725 (where it will likely interfere with Adventist World Radio in Costa Rica). The station will be part of the Fundamental Broadcasting Network, described an outreach ministry of the Grace Missionary Baptist Church in Newport. By the time you read this, the test phase will likely have ended and the regular schedule relaying their local AM-FM broadcasts should be in place.

The **Voice of America** has closed down all seven of its shortwave transmitters at its site at Poro in the Philippines, leaving Tinang as the only VOA shortwave site in that country. The new facility at Tinian in the Northern Marianas will take over at least part of the Poro schedule.

The frequency, **4904.5,** which has been home to **Radiodiffusion Nationale in Chad** (or Tchad, if you prefer) since before time began, has been demoted to standby status. The station now uses **6165** from 0430 sign-on to 0730, and then again from 1000 to 2330 (Saturday/Sunday broadcasts run straight through). **7120** is another standby frequency.

The Israeli armed forces station **Galei Zahal** has made one of its rare appearances on shortwave. It's currently using **6898 upper sideband** and/or also **12197 USB**. The station is relaying programming from its domestic stations. One source guesses this station is aimed at Israeli medical teams who are aiding victims of the Turkish earthquake. If the station is no longer on when you read this, take some solace in the fact that it probably wasn't your last chance. Galei Zahal usually shows up on shortwave when wars or emergencies pull Israeli personnel a distance from home. If you hear it, you can try a report to: Military Mail No. 01005, Israel.

Goodbye Latvia! Latvian Radio has announced that it has left shortwave because the station can no longer afford the cost. That's negative news no matter what station is involved (well, almost!). But Latvia was one of the hardest European countries to hear in North America. Even though a 100-kW transmitter was involved, its **5935** frequency and early sign-off time (rarely later than 2145) made it a very difficult catch.



Part of one of Radio Australia's water-cooled transmitters.

BY GERRY L. DEXTER

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There is talk that major budget cuts may soon be slashing away at Deutsche Welle. Several language services may be cut and as many as 10 others may suffer time cut backs. The English language news department would be eliminated (news would be taken from DW-TV), as would the monitoring service and the monthly program guide. Three-hundred freelance journalists would be dropped, 160 full-time jobs would disappear, and 200 other positions would not be filled when they become open. At the moment, DW employs 1,700 people. Ominously, for us, DW's shortwave focus would swing more in the direction of undeveloped countries, where Internet usage remains very low.

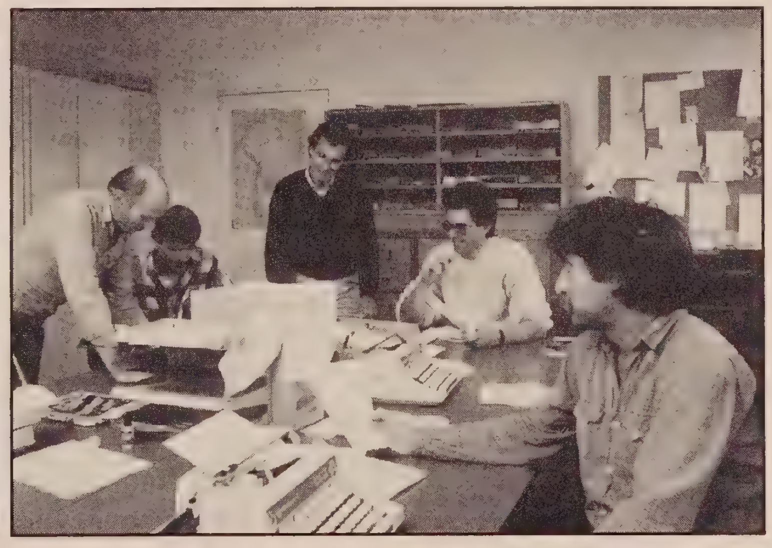
HRMI — **Voz de Misiones Internacionales**, has resumed operation on **5890**, airing Spanish language religious programming. Check evenings until 0435 (or so) sign-off. You can write to the station at Apartado Postal 20583, Comayaguela, Honduras.

Radio Kiribati has returned to the air on **9810**, now that they've acquired the spare parts necessary to fix the transmitter. You can look for this one from their 0530 sign-on through closing at 0930.

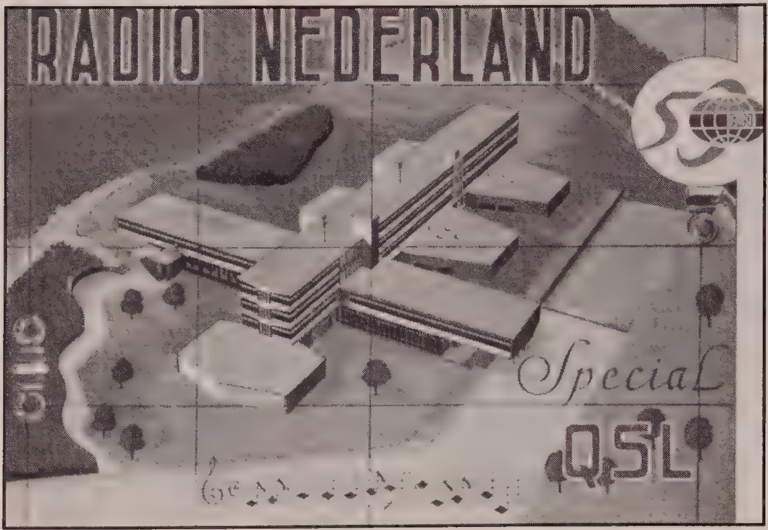
It's monthly prize time again! This month's winner is Sheryl Paszkiewicz of Manitowoc, Wisconsin. Sheryl is a long

TÜRKIYE'NIN SESI RADYOSU
VOICE OF TURKEY
DIE STIMME DER TÜRKEI
LA VOIX DE LA TURQUIE
TRT

The Voice of Turkey issued this card to Jeffrey Nuska in 1998.



The news room at Swiss Radio International.



Radio Netherlands issued this colorful commemorative QSL to mark its 50th anniversary.

Torino - Piazza Castello

This card from RAI, Italy, in 1962 shows The Castle Square in Torino. (Robert Grubbs, IL)

time "Listening Post" reporter (and editor for the North American Shortwave Association) and really knows her way around the bands. We appreciate her consistent support over the years. Sheryl receives the year 2000 edition of the indispensable *Passport To World Band Radio*, courtesy of Universal Radio. "Passport" is just one of dozens of books — not to mention receivers, antennas, and accessories — featured in their huge catalog. Get a copy by calling Universal at 614-866-4267. Or you can write them at 6830 Americana Parkway, Reynoldsburg, OH 43068-4113. Their Website is at <www.universal-radio.com>.

Remember, your reception logs are always welcome. Just be sure to list them by country, with a minimum double space between each one — it makes cutting them into useable strips much easier! Also be sure to include your last name and state abbreviation after each item. Other things we can put to good use are spare QSL cards you don't need returned, station photos and other items which can be used as illustrations, such as schedules, pennants, brochures, and such. And how about a photograph of you at your listening post? We'll be glad to help make you a DX star! As always, thanks so much for your continued interest and cooperation!

Abbreviations Used in Listening Post

AA	Arabic
BC	Broadcasting
CC	Chinese
EE	English
FF	French
GG	German
ID	Identification
IS	Interval Signal
JJ	Japanese
mx	Music
NA	North America
nx	News
OM	Male
pgm	Program
PP	Portuguese
RR	Russian
rx	Religion/ious
SA	South America/n
SS	Spanish
UTC	Coordinated Universal Time (ex-GMT)
v	Frequency varies
w/	With
WX	Weather
YL	Female
//	Parallel Frequencies

Here are this month's logs. All times are in UTC, which is five hours ahead of EST, i.e.0000 UTC equals 7 p.m. EST, 6 p.m. CST, 5 p.m. MST, and 4 p.m. PST. Double capital letters are language abbreviations (FF = French, AA = Arabic, SS = Spanish, etc.). If no language abbreviation is included, the broadcast is assumed to have been in English.

ANTIGUA — BBC world service, **5975** at 0257 with "Insight" and "The World Today." (Jeffery, NY)

ASCENSION ISLAND — BBC relay, **7160** monitored at 0652 with news of Africa. (Foss, AK)

AUSTRALIA — Radio Australia, **11650** at 1418. (Miller, WA)

BRAZIL — Radio Nacional Amazonia, **11780** in PP at 2318. (Miller, WA) Radio Anhanguera, **11830** at 0151 with commercials in PP. (Paszkiewicz, WI) Radio Brazil Central, **11815** in PP at 0005. (Brossell, WI)

BULGARIA — Radio Bulgaria, **11720** at 2150 with DX program. The host mentioned Radio Dada Gorgud in Azerbaijan, saying "You can write them, but they seldom answer." (Brossell, WI) (Robert adds: "My experience verifies that statement!")

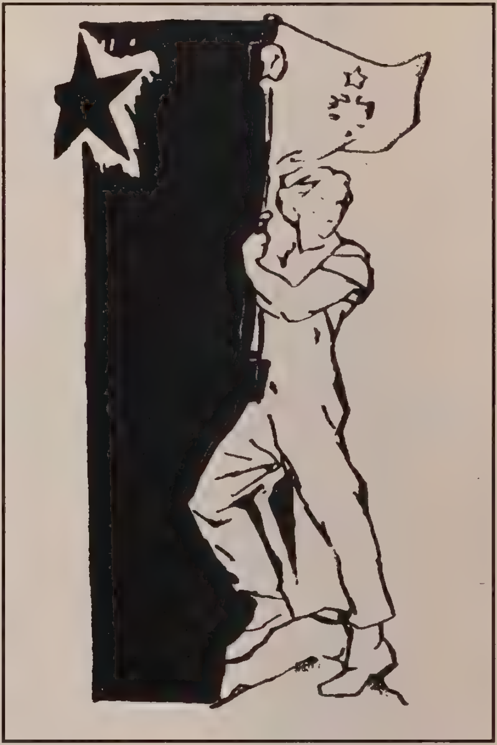
CANADA — CBC Northern Service, **9625** at 1439 with item about using birth control pills to grow giant pumpkins. (I'm not kidding!) (Ziegner, MA) Radio Canada Int'l, **15305** at 0204 with news, "Spectrum," ID. (Paszkiewicz, WI)

COSTA RICA — RFPI, 15050 monitored at 0235. (Brossell, WI)

CZECH REPUBLIC — Radio Prague, **11600** to Mideast and Asia at 0330 with news, economic report. Parallel to 15530. (Hughes, MO)

ENGLAND — BBC via Greenville, U.S., **6175** at 0523 with press review. (Foss, AK) **9515** (via Canada) at 1300 with news and sports. "Health Matters" at 1405. (Wilden, IN) 1534 with "The Greenfield Collection." (Jeffery, NY)

GABON — Africa Number One, **15475**. News in FF. (Hughes, MO)



Radio Tirana's well-remembered QSL from the Cold War days. Was shortwave listening more fun then?

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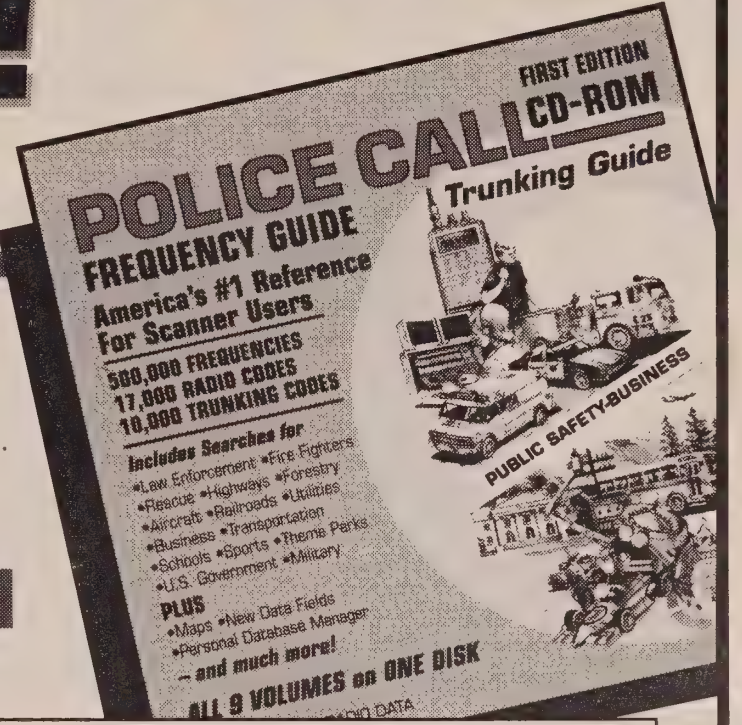
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GREECE — Voice of Greece, **11645** in Greek at 0325 with Greek music; parallel **7450 and 9420** (Hughes, MO) 11645 at 0357 with EE ID "You are listening to the Voice of Greece," and back into Greek. (Brossell, WI) Radiofonikos Stathmos Makedonias (presumed) **17765** in Greek at 2035. Greek music, news, more music. (Jeffery, NY)

GUAM — Adventist World Radio/KSDA, **9355** at 1459 with EE ID and into unidentified language, Indian music. (Miller, WA) Trans World Radio, **15330** at 0915 with religious program. Barely audible under static. (Jeffery, NY)

GUATEMALA — Radio Buenas Nuevas, **4800** in SS at 0332 with full ID, frequency announcement. (Paszkiewicz, WI) Radio Tezulutlan, Coban, **4835** in local language at 1149 with music dedications. (Miller, WA)

INDIA — All India Radio, **11620** at 1425 with history feature. (Miller, WA)

INDONESIA — Radio Republik Indonesia, Jakarta, **11760** at 1438 in II with regional music. (Miller, WA)

LAMIRANDE
ANCIENNE RHUMERIE

RFO Guyane in French Guiana sent this card to Andy Johns (TX) a few years ago.

IRAN — Voice of the Islamic Republic of Iran, **15085** in unidentified language at 2030 with music and talks. (Brossell, WI)

JAPAN — NHK World Radio Japan, **11730** at 1636. Off at 1700. (Hughes, MO) **11815** at 1240 with music and talks in JJ. (Brossell, WI)

JORDAN — Radio Jordan, **15435** at 0555 in AA. (Foss, AK) (*Libya and UAE also scheduled here at this hour. It can be confusing! — Ed*)

KUWAIT — Radio Kuwait, **15495** at 0601 with woman in AA. (Foss, AK)

MEXICO — Radio Mexico Int'l, **9705** monitored at 0256 with ballads in SS. (Paszkiewicz, WI)

MONACO — Trans World Radio, **11735** at 0556. "You are tuned to the international voice of Trans World Radio" and IS. (Miller, WA)

MONGOLIA — Voice of Mongolia, **12015** at 1000 in unidentified language. IS. (Ziegner, MA)

NETHERLANDS ANTILLES — Radio Netherlands Bonaire relay, **9820** at 0947 with "Newsline," ID, and frequency info. (Jeffery, NY)

NEW ZEALAND — Radio New Zealand Int'l, **9700** at 0920 with discussion of MS. **17675** at 0122 with "Cadenza." (Jeffery, NY) 11905 at 0532 with domestic news. (Foss, AK) 17675 at 0340 carrying Radio National domestic service. (Hughes, MO)

PAPUA NEW GUINEA — National Broadcasting Corporation, Port Moresby, **4890** monitored at 1231 with song dedications. (Miller, WA)

PAKISTAN — Radio Pakistan, presumed, **15455** at 0223 in unidentified language with talk and what appeared to be news. (Jeffery, NY) **15485** at 0212 in unidentified language. EE ID at 0230 with frequency info followed by commentary on war with India. (Foss, AK)

PHILIPPINES — Far East Broadcasting Company, **11635** at 0928 with IS, ID, and news. Barely audible. (Jeffery, NY) **15095** at 1235 in an Asian language. (Brossell, WI)

PUERTO RICO — Armed Forces Radio TV Service, **6458 USB** monitored at 0310 with cooking segment, public service announcements, and sports news. (Jeffery, NY)

RUSSIA — Voice of Russia, **9665** at 0200 with news, oil exploration, events in Kosovo, and needing money to refurbish MIR. (Wilden, IN) Here and **parallel 7125, 17565, 17630, 17660, 17690** between 0300 and 0500. I was notified by mail that Joe Adamov would be answering my question on "Moscow Mailbag." (Hughes, MO) **12070** at 1900 with news. (Ziegner, MO) Radio Rossi, **9845** at 0300 with "Goverit Moscow" and Radio Rossi IDs, news in RR. Sounded like it was from an Asian transmitter site. (Paszkiewicz, WI) Radio Netherlands via Russia, **12065** at 0940 with "Newsline." (Jeffery, NY)

ROMANIA — Radio Romania Int'l, **11740** at 0400, **//9570**, both poor. (Hughes, MO)

SOUTH AFRICA — Channel Africa, **11720** monitored at 0540 with news in PP. (Miller, WA)

SPAIN — Radio Exterior de Espana, **11920** monitored at 0633 with woman in SS. (Foss, AK)

SWEDEN — Radio Sweden, **11650** at 1235 with pops. (Brossell, WI)

TAIWAN — Radio Taipei Int'l, **5950** via WYFR at 0333 with plug for contest "Your Vision Of Taiwan In The Year 2000." **9620** (via WYFR) at 0243 discussing plants and gardening, then Carson Wong with elementary-spoken Chinese program. (Wilden, IN) **11745** (direct) at 1434. (Miller, WA) **17805** via WYFR at 2306 in SS. (Jeffery, NY)

THAILAND — BBC relay on **15280** at 1250 with sports news. (Brossell, WI)

TURKEY — Voice of Turkey, **11655** at 0300 with "Impressions of Turkey," "Turkey and Greece," and "Anatolia — Lord of Legends." QRM from Cuban jamming against Radio Marti on 11660. (Hughes, MO)

UGANDA — Radio Uganda, **4976** monitored at 0335 in unidentified language, mentions of Nelson Mandela, Mozambique, ID. (Paszkiewicz, WI)

UNITED ARAB EMIRATES — UAE Radio Dubai, **13675** at 0330 with ID, frequency info, world news, and Dubai weather. (Jeffery, NY) **21605** at 1600 with "Poetry's Moral Function." (Ziegner, MA)

UNITED STATES — AFRTS, Florida, **12689 USB** at 0304 with CBS Radio News, military-related announcements. (Jeffery, NY)

UKRAINE — Radio Ukraine Int'l, **9945** at 2300 with news and comment in presumed Ukrainian.

YUGOSLAVIA — Radio Yugoslavia, **11850** at 0447 just finishing news and into program answering letters. (Hill, ID)

And that's "30" for this time. A mighty, roaring cheer for the folks who did the good thing this month, namely: Sheryl Paszkiewicz, Manitowoc, Wisconsin; Sue Wilden, Nobelsville, Indiana; Dave Jeffery, Niagara Falls, New York; Tricia Ziegner, Westford, Massachusetts; T. Hill, Mountain Home, Idaho; David Hughes, Kansas City, Missouri; Mike Miller, Issaquah, Washington; Marty Foss, Talkeetna, Alaska, and Robert Brossell, Pewaukee, Wisconsin. Thanks to each one of you!

Until next month, good listening! ■

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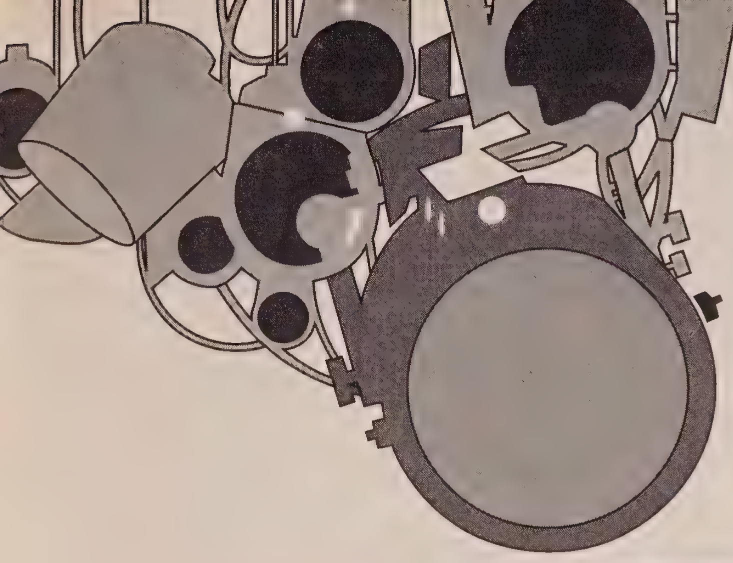


product spotlight

BY RICHARD "RD" BAKER

POP'COMM REVIEWS PRODUCTS OF INTEREST

"RD" Test-Drives The ICOM IC-R75

The new ICOM R-75 is the first new compact, dedicated, desktop size HF receiver ICOM has launched in many years. It builds upon its relatives of past, the IC-R-71 and the IC-R72. I was able to give it a test drive of over five weeks and got a good feel for the radio while tuning hundreds of stations, both broadcast and utility. We also gave the VHF low-band a good workout.

First, we have to get some required specifications out of the way. The IC-R75 covers the frequency range 0.03 kHz to 60 MHz continuous in the U.S. version. Modes include AM, FM, SSB, CW, and Synchronous-AM (S-AM). For you digital mode folks, the IC-R75 features a CW reverse mode, CW pitch control and RTTY reverse mode. CW reverse receives CW signals with a reverse side for use when encountering interfering signals. CW pitch changes the audio pitch without changing the frequency (300 to 600 Hz). RTTY reverse is used when the signal is reversed between mark and space to receive the signal correctly.

The radio also features Twin Pass Band Tuning, 101 programmable channels (99 regular, plus two scan edges), and optional Digital Signal Processing (DSP). Power supply 13.8 V DC +/- 15% negative ground. Frequency stability less than +/- 7 ppm from 1 minute to 60 minutes after power on. After that, rate of stability is less than +/- 1 ppm/hr. at +25C (+77F). Temperature fluctuations 0 degree C to +50 C (+32F to +122F) less than +/- 5 ppm. Current drain at 13.8 V DC is 0.9A (standby) and 1.1A maximum audio. Dimensions are (HWD) 3 11/16" x 9 1/2" x 9 1/32". Weight is 6 lbs., 10 oz. The receiver users a triple conversion superheterodyne system. There is an optional Digital Signal Processor (DSP) unit which provides an automatic notch filter.

No surprises were encountered setting the radio up, but frequencies must be entered in MHz rather than kHz. The so-called ergonomics of the radio were very favorable. I found no problems with the placement of the controls, buttons, and dials. The buttons are the type that are seemingly set in rubber that I'm not particularly fond of using, but after five weeks, I got used to them and they worked fine. The forward-facing speaker is a big improvement over the R-72s top-mounted speaker. The clock and the frequency readout both use the same display, so you can have one or the other. Programmable tuning steps are independently selectable for each mode from 0.1, 1, 5, 6.25, 9, 10, 12.5, 20, 25, and 100 kHz. A dial lock function prevents accidental changes of frequency caused by the tuning dial being bumped.

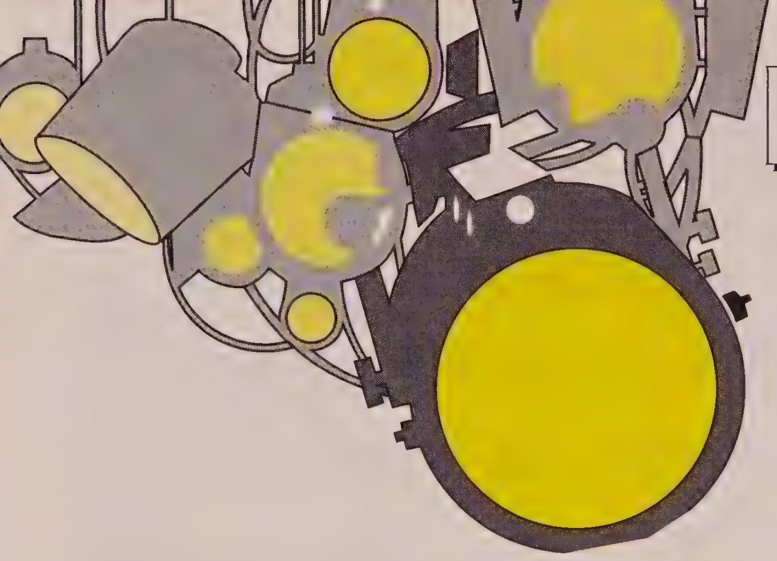
View of the front of the new ICOM R-75 .

On the rear panel, you can connect a wire antenna or a PL-259 connector. These can be selected and switched back and forth from a button on the front panel. There is also an RS-232C port for computer control and a unique recorder jack. I found the radio worked fine with my ScanCat computer control software using the RS-232C port after very little tweaking to set the radio up.

In actual operation, the twin Pass Band Tuning function performed well. The idea being that the twin PBT electronically barrows the IF passband widths to reduce interference. The noise blanker also performed well.

As mentioned, during the five-week workout, hundreds of stations were logged. The sensitivity was good across the board. You have some good tools to work with to get those hard-to-hear stations. As many modes as possible were used with no major problems found. Considering the street price of about $800, the IC-R-75 presents both broadcast and utility station fans alike a strong candidate in the $750 to $1000 receiver cost category. I liked the added band coverage which opens up VHF low-band DXing, the 6-meter ham band, and some military frequencies in the 50- to 60-MHz range that normally require an additional radio to receive. The radio is a marked improvement over the IC-R-72 and can sit at the table with the big boys anytime.

For more information on the IC-R75, contact ICOM America, Inc., 2380 116th Ave. NE, Bellvue, WA 98004 or phone 425-454-8155. You can visit their Website at <http://www.ocomamerica.com>. ■



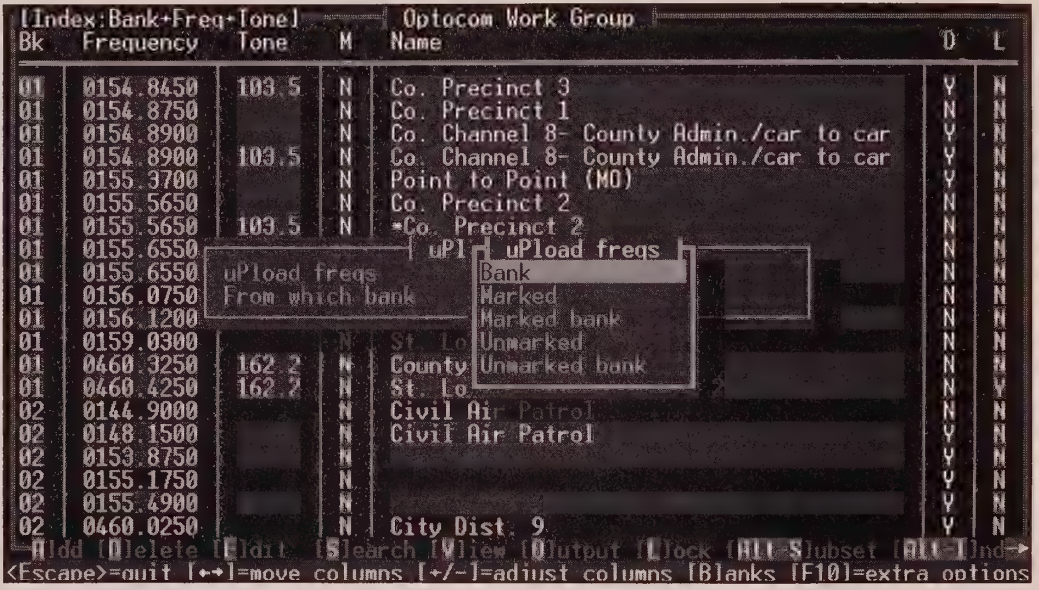
product spotlight

Pop'Comm Reviews Products Of Interest

Probe Turns 5!

If you've followed this magazine and in particular the "ScanTech" column for any length of time, you'll know that one of my favorite radios for computer control is the Optoscan series of interface boards for the PRO-2005 and PRO-2006, as well as the PRO-2035 and PRO-2042. The OptoCom receiver has most recently supplanted this, since it's an all-in-one system that accomplishes the same thing and more. You probably also know that my favorite software to control these units is Probe from Datafile, Inc.

Datafile recently announced the version 5.0 upgrade to this excellent control program. What could they possibly add? Lots of enhancements which we'll take a look at in a moment, but first, for those unfamiliar with the program, let's take a quick look at the basic features.



```
[Index:Bank+Freq+Tone]      Optocom Work Group
Bk   Frequency   Tone    M   Name                                       D   L
01   0154.8450   103.5   N   Co. Precinct 3                             Y   N
01   0154.8750           N   Co. Precinct 1                             N   N
01   0154.8900           N   Co. Channel 8- County Admin./car to car    Y   N
01   0154.8900   103.5   N   Co. Channel 8- County Admin./car to car    Y   N
01   0155.3700           N   Point to Point (MO)                        Y   N
01   0155.5650           N   Co. Precinct 2                             N   N
01   0155.5650   103.5   N   *Co. Precinct 2                            N   N
01   0155.6550                          uPl  uPload freqs               N   N
01   0155.6550   uPload freqs          Bank                             N   N
01   0156.0750   From which bank       Marked                           N   N
01   0156.1200                         Marked bank                      N   N
01   0159.0300           N   St. Lo    Unmarked                         N   N
01   0460.3250   162.2   N   County    Unmarked bank                    N   N
01   0460.4250   162.2   N   St. Lo                                     N   Y
02   0144.9000           N   Civil Air Patrol                           N   N
02   0148.1500           N   Civil Air Patrol                           Y   N
02   0153.8750           N                                              Y   N
02   0155.1750           N                                              Y   N
02   0155.4900           N                                              Y   N
02   0460.0250           N   City Dist. 9                               Y   N
 [A]dd [D]elete [E]dit [S]earch [V]iew [O]utput [L]ock [Alt-S]ubset [Alt-I]nd→
<Escape>=quit [↔]=move columns [+/-]=adjust columns [B]lanks [F10]=extra options
```

One of the special features added to Probe 5 for the OptoCom receiver is the ability to upload up to 100 frequencies for scanning "off-line." Pick any bank, marked or unmarked frequencies for upload. A warning is displayed if the selected frequency count exceeds 100.

Specialized Software

Unlike most computer-control software that we've looked at, Probe only supports the Optoscan units. The author feels that this focus on a single platform allows him to extract maximum performance, while keeping the software simple. It certainly achieves that goal, although underneath this DOS-based program is a lot of sophistication in computer control.

Why DOS? Once again, the author felt that keeping the program scaled down and simple would help ensure maximum performance. Some of the fastest scanning speeds I've ever measured have been with Probe; over 100 channels per-second on the OS-535 and OptoCom units, although at those speeds some of the weaker signals may be skipped. I've been running an OptoCom quite comfortably in the 70 to 80 channels per second range. A lot of Windows™ programs simply can't function at those speeds.

Many Windows™ users complain of reduced scanning and system performance when trying to use their systems to accomplish two things at once. And Datafile is quick to point out that many 286 and 386 computers are available for a song but make perfect dedicated controllers. I have to agree with this concept. It wasn't long after I started using Probe that I wanted a full-time computer to control the scanner. I found an older machine that was unused for less than $100 and its been running a scanner since then!

The power has gone out a few times. Outside of that, it doesn't even get turned off. I just use the mute function in Probe to quiet the system down when I won't be there to listen. I can do searching and scanning while I'm not there, looking for things I didn't know about. I've found a few frequencies this way that weren't published, although it does take some time to dig through the results. Mostly, I just let it run because I'm too lazy to shut the whole thing off.

Lots Of Channels, And Data Management

Probe's specialty is ease-of-use and data handling. The program first creates a group file (this is the file that is saved on disk). Each group file can contain up to 99 banks of up to 1,000 channels each. Of course, you won't come anywhere near filling that up under normal operations, but it's nice to know that there's plenty of capacity if you need it. You can have up to 4,000 group files on disk ready for action at a moment's notice.

Since each group has 99 banks available, you should be able to break your channels down into small groups that can be switched on easily and comfortably. In fact, Probe has a feature called "hyperbanks," which allows you to memorize sets of banks and recall them with a single function key. In addition, you can recall not only the banks, but also specific settings for those banks, including

BY KEN REISS <Armadillo1@aol.com>

log files, delay times, alarm options, and a host of other scan-related settings. It's almost like having 10 preprogrammed scanners at your fingertips. Keep in mind that each of the 4,000 groups can be set up this way!

Probe also has a unique feature called SmartScan. This allows you to set up certain key frequencies as triggers for other banks. For instance, here in St. Louis, our State Patrol uses a lowband system, where the base is on one of two frequencies and the mobiles are on one of two others. With a traditional scanner, about the most you can hope to catch is the dispatch of a call or the response of the mobile sometime later. However, using SmartScan, you can set the system to stop scanning all other frequencies except those four for a period of time, if any of them goes active. It contributes a lot to the continuity of what's heard.

There is also a mode where the "SmartBank" can be turned on in addition to the normal frequencies you're monitoring. This might come in handy for air emergencies or fire operations. You might choose to scan 121.5 in your normal scanning mix. As soon as you heard activity on that frequency, a whole bunch of other things will likely become interesting — airport operations, fire and rescue, and possibly police operations, as well. By turning on an additional bank with these frequencies loaded, you can continue to scan your normal activity while waiting to see what develops. Of course, with the press of a function key, you can change all the banks to focus on the air emergency if you have things configured in advance.

So What's New?

If you've been working with Probe for any length of time, you'll already be familiar with these options and a host of other enhancements to make your scanning life easier. But Probe 5.0 has a few tricks up its sleeve to help make life interesting.

First and foremost, Probe 5.0 features support for the new OptoCom scanner (see August '99 "Product Spotlight" for more details on this exciting receiver). You may recall that the OptoCom is a computer-controlled "black box" type receiver with very limited control functions available on the receiver itself. Some form of computer connection and control software is required to make the most of this radio, and Probe 5.0 does an excellent job with conventional scanning applications. It's worth noting that Probe 5.0 does NOT support the trunking features of the OptoCom.

While earlier versions of Probe will run with the OptoCom, you'll want version 5.0 to take full advantage of the unique features and speed of this receiver. Many of the OptoCom's special functions are supported, including communications rates up to 38400 baud and download of frequencies from a Probe bank into the OptoCom's "off-line" memories for scanning while away from the computer.

Lots Of Features For OptoScan Users Too!

Of course, Probe version 5.0 has lots of features that will benefit both OptoCom and OptoScan users. Many of Probe's already extensive features have been enhanced or updated for better performance or additional control features. A great example of this is the tone control function in Probe 5.0.

I have not seen any computer-controlled scanner/software combination

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- <7mV @ 1GHz
- <100mV @ 3GHz

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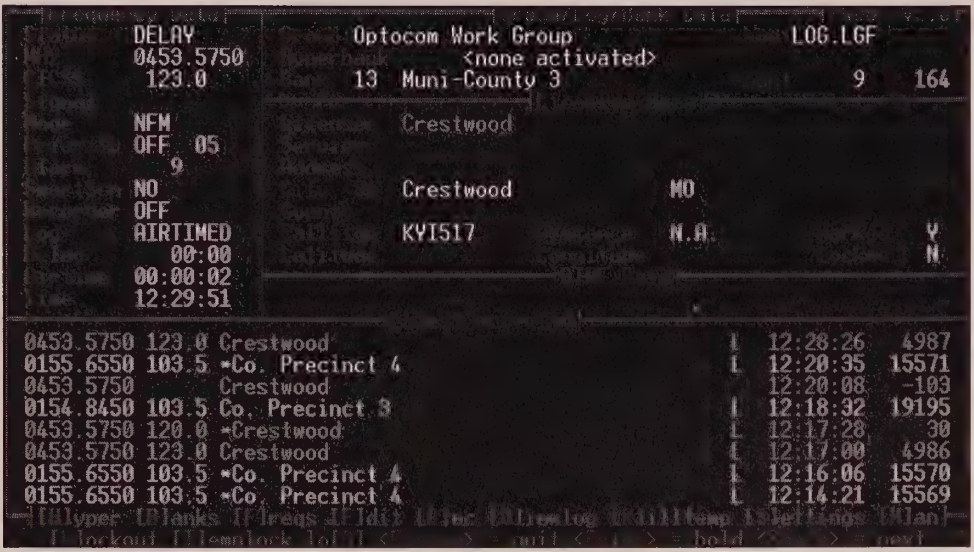


```
          DELAY                 Optocom Work Group                        LOG.LGF
          0453.5750                  <none activated>
           123.0               13  Muni-County 3                           9    164

          NFM                         Crestwood
          OFF  05
             9
          NO                          Crestwood                MO
          OFF
          AIRTIMED                    KYI517                   N.A                  Y
             00:00                                                                  N
          00:00:02
          12:29:51
0453.5750 123.0 Crestwood                                     L  12:28:26   4987
0155.6550 103.5 *Co. Precinct 4                               L  12:20:35  15571
0453.5750       Crestwood                                        12:20:08   -103
0154.8450 103.5 Co. Precinct 3                                L  12:18:32  19195
0453.5750 120.0 *Crestwood                                    L  12:17:28     30
0453.5750 123.0 Crestwood                                     L  12:17:00   4986
0155.6550 103.5 *Co. Precinct 4                               L  12:16:06  15570
0155.6550 103.5 *Co. Precinct 4                               L  12:14:21  15569
```

Probe's scan screen has always been known for simple efficiency. Version 5 has moved a few indicators and added some additional information, but remains easy-to-read and full of information at a glance.

that rivals Probe for tone control (CTCSS, DCS, and DTMF functions). You can use CTCSS and DCS tones in a true "tone squelch" mode, or use them for logging and identification of users sharing a frequency. Version 5.0 enhances the tone control and error correction features to minimize the logging and reception of tones decoded in error (an inherent limitation of the hardware used in the OS-535 and OptoCom tone decoders).

It's probably also worth noting that Probe is the only software on the market that I've found which will squelch for "no tone." If you have several departments who use a particular frequency and they all use CTCSS, it's pretty easy to pick one and ignore the rest. But what if the user you want to listen to doesn't use a CTCSS tone? Probe can squelch out the ones who do, leaving only the no-tone transmissions if you wish. Of course, that's assuming only one user has no-tone, and that you don't receive interference on that frequency. It's of limited use, but very unique and quite convenient, if you need that capability.

Also new in Probe 5.0 are some enhancements to the data management functions. You can now replace data in a particular file over the entire database, just a single bank, or marked records. This comes in handy for adjusting settings and enhancing the usability of the database that I maintain of my own frequency data.

Version 5.0 also features some automatic marking and lockout functions to enhance data management and searching functions. You can, for instance, tell Probe to mark all the records in the database as activity is logged, or after a certain number of hits in the log file. It's then very interesting and simple to go back through your frequency file and see what's really getting traffic and what's not.

If you're searching, there's no sense in searching a frequency again after you've identified activity there. Here's where autolockout comes in handy. You can designate that after a certain number of times a frequency being scanned or searched has been active, to lock it out and concentrate on other things. You can also mark these frequencies, making it easy to look at the frequency browser and see what's active and what's not. Of course, once marked, these frequencies can be exported to another group or bank for scanning in a more traditional way.

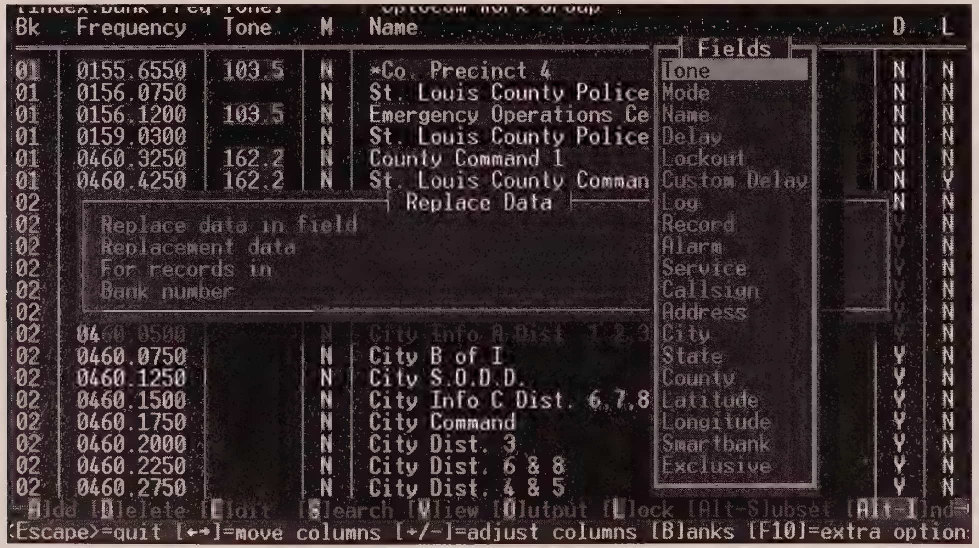
Probe 5.0 also allows more control over the log functions, since several of these automatic functions depend on logged records to do their magic. One neat feature is to only log an entry that has been active for a certain length of time, rather than immediately once its been found active. These features, in combination with "autolock" and "automark," can help ensure that you have marked or locked out the truly active frequencies.

One more trick is the modulation/no-modulation limits. You can specify that Probe should skip or lockout a frequency based on the presence or absence of modulation. Now those annoying birdie and control frequencies can be handled by computer control.

Probe has always offered a wide range of tools for both the beginner and advanced level enthusiast. Version 5.0 continues this tradition by adding a number of truly unique features to the arsenal. However, it's still a very easy program to get up and running if you're a novice, and you can grow into the advanced features when you're good and ready. Nothing comes close for ease-of-use and versatility combined.

Probe 5.0 sells for $129.95 and is available directly from the publisher, Datafile Inc. at P.O. Box 20111, St. Louis, MO 63123. Mention this article in *Popular Communications* through December 15, 1999 and you can take advantage of a special sale price of $99.95. But be careful. If you mention our editor's name — Harold — the price goes back up.

Contact them directly for upgrade information from prior versions via mail, or E-mail at <datafiles@aol.com>. If you have an Optoscan controlled radio, or the new OptoCom, and virtually any old computer to dedicate to controlling it, you need this program. ■



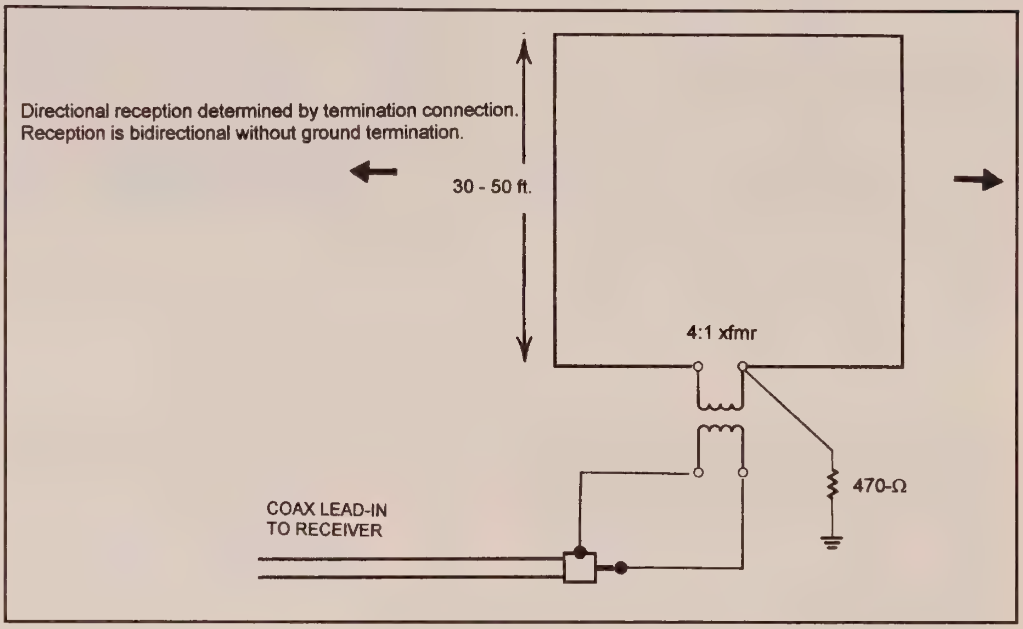
```
Bk  Frequency  Tone   M  Name                         D  L
                                          ┤ Fields ├
01  0155.6550  103.5  N  *Co. Precinct 4  Tone           N  N
01  0156.0750         N  St. Louis County Police  Mode   N  N
01  0156.1200  103.5  N  Emergency Operations Ce  Name   N  N
01  0159.0300         N  St. Louis County Police  Delay  N  N
01  0460.3250  162.2  N  County Command 1  Lockout       N  N
01  0460.4250  162.2  N  St. Louis County Comman  Custom Delay  N  Y
02                  ┤ Replace Data ├      Log            N  N
02    Replace data in field               Record            N
02    Replacement data                    Alarm             N
02    For records in                      Service           N
02    Bank number                         Callsign          N
02                                        Address           N
02  04                                    City              N
02  0460.0750         N  City B of I      State          Y  N
02  0460.1250         N  City S.O.D.D.    County         Y  N
02  0460.1500         N  City Info C Dist. 6,7,8  Latitude  Y  N
02  0460.1750         N  City Command     Longitude      Y  N
02  0460.2000         N  City Dist. 3     Smartbank      Y  N
02  0460.2250         N  City Dist. 6 & 8  Exclusive     Y  N
02  0460.2750         N  City Dist. 4 & 5                Y  N
<Escape>=quit [←→]=move columns [+/-]=adjust columns [B]anks [F10]=extra option
```

Many new data handling features have been added to Probe 5, including this "replace" function. This makes it easy to fill in empty fields, or to make changes in a hurry. Any field can be selected for adjustment, and the change can be applied to banks, marked or unmarked records, or everything. It's very convenient for quick data entry.

broadcast dxing

DX, News And Views Of AM And FM Broadcasting

Terminated Loop Antenna Hauls In The DX


Directional reception determined by termination connection.
Reception is bidirectional without ground termination.
30 - 50 ft.
4:1 xfmr
470-Ω
COAX LEAD-IN
TO RECEIVER

Mediumwave version of K9AY terminated loop antenna.

The K9AY terminated loop antenna has been receiving the attention of many "hard-core" mediumwave DXers. Introduced by Gary Breed, K9AY, in *QST* magazine for low-band ham radio, versions adapted for mediumwave reception have proven their worth.

A terminated loop can provide for reception from a single direction. Phasing with a second loop or wire can produce an even tighter and steerable cardioid reception pattern. I've experimented with simplified versions of more elaborate designs and found that comparable results can be achieved. The most successful so far simply requires about 200 feet of insulated wire, a 4:1 RF matching transformer, a 470-ohm resistor, a ground rod and/or ground radials, and 50-ohm coax lead-in. A single square loop of wire, typically 30 to 50 feet each side, is supported vertically by trees or poles. I use 14 or 16 AWG THHN-type insulated copper wire, available from most hardware stores. The heavy-duty wire is strong enough to survive wind and ice storms, and the double insulation protects the wire from shorting to tree limbs or ground. The ends of the square loop are connected to the high impedance winding of the 4:1 RF matching transformer. The low impedance winding is connected across the center pin and ground of the 50-ohm coaxial lead-in to the receiver. Mini-Circuits, P.O. Box 350166, Brooklyn, NY 11235, <http://www.mini-circuits.com>, is a good source of RF transformers for reception purposes. Mini-Circuits model T4-6 has good wideband performance, specified for 0.02 –200 MHz operation. The Mini-Circuits transformer is a 6-pin DIP that will have to be mounted in a weatherproof chassis with appropriate connectors for the wire loop and coax. The loop should be located about 20 feet from any potential noise sources, such as buildings and power lines. See "Broadcast DXing" in *Popular Communications,* February 1999, for further discussion of noise reduction techniques. Finally, a 470-ohm resistor to ground is attached to one of the ends of the square loop of wire at the transformer for single-direction cardioid reception.

Experiment by switching the ground termination from one end to the other and observing the directional characteristics. The loop can also be implemented in a balanced bidirectional configuration by disconnecting the ground. With this version of the terminated loop, I found it much easier to obtain nulls of local stations when phased against a longwire than when phasing two longwire antennas. Stand-alone loop performance was also interesting with nulls off the sides exhibited by a drop of as much as 10 dB in signal strength measured in daytime testing.

Performance can be improved at select frequencies by replacing the 470-ohm termination with a voltage-controlled variable resistor, such as a Vactrol photoresistor unit, but I found 470-ohms to be adequate across the band. To learn more about K9AY loop antennas for mediumwave, visit Mark Connelly's "Concise List of DXing and Electronics Experimentation Web Links" at <http://members.aol.com/MarkWA1ION/weblink.htm>, where you'll find construction info on antenna phasing units and the "WA1ION version" of the K9AY loop. While visiting Mark's site in the AOL Hometown, stop by my Website too, at <http://members.aol.com/baconti/>, for an introduction to broadcast DXing. Further discussions about the K9AY loop can be found on "Funkenhauser's Whamlog and Mediumwave DX Radio Links" site at <http://home.inforamp.net/~funk/>.

More Antenna Work

Bill Frahm, Assistant Engineer for KBOI, KQFC, KKGL, KIZN, and KZMG, passes along the following antenna changes for KBOI Boise, Idaho, on 670 kHz; "KBOI has been operating 12.5 kW non-directional at night while five new towers go up and three old towers come down. The resulting new night pattern will have a wide major lobe to the north (more signal towards Montana) and a lesser lobe to the west (a little less than the old pattern). There is a small null to the northwest that's the same as the old pattern. The null towards WMAQ is not as deep as before. A new deep null to the south towards Simi Valley is the big change. Lotus Communications, owners

BY BRUCE CONTI <BAConti@aol.com>

of the Simi Valley station, are paying for the changes."

The new night pattern has been under test, and might improve chances for DXers in the east to log this rare state. Reception reports can be sent to KBOI at P.O. Box 1280, Boise, ID 83701. As Bill eluded, the changes coincide with an increase in power for KVCA Simi Valley, California, also on 670 kHz.

Those that miss the KSTN "Y2K" DX test on New Year's Day can take a "broadcasting tour" of the 1420 AM facilities on the Internet. Chief Engineer Paul Shinn says that you can get a look at the KSTN studios and transmitters by going to his Website at <http://members.spree.com/paulshinn>. He says, "There's also lots of pictures of other radio station's studios and transmitters to drool over."

U.S. Digital Radio Update

Lucent Technologies' digital radio division has paired up with the investment firm Pequot Capital Management to form Lucent Digital Radio in an effort to give in-band on-channel (IBOC) AM and FM digital broadcasting a boost. The system under development by Lucent would provide listeners with a variety of satellite and Internet audio services via IBOC digital broadcasting on existing analog frequencies. Competitor USA Digital has teamed up with Texas Instruments to develop DSP technology for IBOC AM and FM receivers, scheduled for introduction in 2001. The USA Digital system will provide data services, such as display of song titles and artists, traffic, news, and weather. A conference recently held at the 107th Convention of the Audio Engineering Society featured representatives from the three major competitors locked in a battle for IBOC approval from the FCC; USA Digital Radio, Digital Radio Express, and Lucent Digital Radio. The National Association of Broadcasters was also on hand to discuss various technical and political issues that have slowed IBOC progress and implementation.

X-Band Files

On the expanded AM band, WRNU Miami Springs, Florida, on 1700 kHz dropped the Spanish-language Radio Unica network to become WFAN, "The Fan, Home of Westwood One Sports," supplemented by Imus In The Morning. WTIR Winter Garden, Florida, has been widely-heard testing with "Traveler Information Radio" at 1680 kHz. Listen for Waco, Texas, signing on soon at 1660 kHz if not there already. Depending on your perspective, the X-Band is either quickly becoming overcrowded or more challenging and interesting for DXing.

QSL Information

Patrick Martin proves that patience is a virtue, I think.

1130 XETOL Toluca, Mexico, received very nice letter from Oscar M. Beltran — Sales Dept. at Network HQ in 35 days for taped report. I have been trying to QSL this since I heard the station in 1993! Address: Corporacion Mexicana De Radiodifusion, S.A. DE C.V., Calle

Tetitla No. 23, Col. Toriello Guerra, Delegacion Tlalpan, C.P. 14050, Mexico D.F. Returned my cassette tape and $1 U.S. Very nice stamps on the envelope. I am pleased with this one. Thanks to Paul Ormandy of New Zealand for the assistance. (Martin, OR)

1190 KORG Anaheim, California. After nine years of trying, I finally got a verification! Signed Miles Sexton. Address: 1190 E. Ball Rd, Anaheim, CA 92805. (Martin, OR)

1539 5TAB Adelaide, Australia, full

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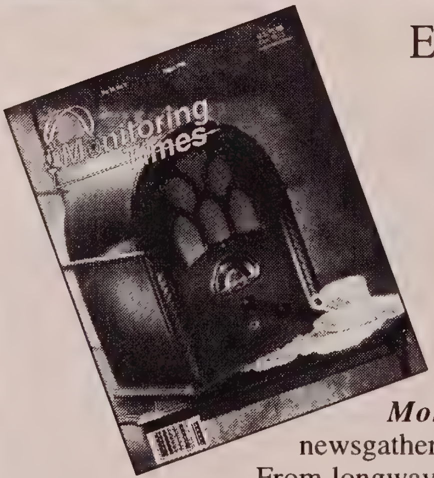

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detail QSL card in 19 days for taped report, signed E.G. Gesler. Address: Tab Building, Level 1, Pulteney Court, Adelaide 5000, S.A. Australia. (Martin, OR)

Broadcast Loggings

International mediumwave DXers are at work on both coasts, while a listener in the Volunteer State keeps us well grounded in this month's selected logs. All times UTC.

531 JOQG Morioka, Japan, at 1350 good on top of 2MC-Australia with Japanese talk, first good opening to Asia this season. (Martin, OR)

540 NHK synchros, Japan, at 1351 with talk in Japanese parallel 531 kHz, over/under Radio Rhema-New Zealand. (Martin, OR)

549 Germany, at 0035 parallel 756 kHz with male and female opera vocals and classical violin, noted behind strong Algerian at first, then atop it later. (Connelly, MA)

549 R. Rhema, Kaitaia, New Zealand, at 1302 parallel 540 kHz. (Martin, OR)

558 DZXL Makati, Philippines, at 1355 fair on top of JOCR-Japan with Filipino talk and "D-Z-X-L" ID fanfare. (Martin, OR)

639 R. Fiji One, Luotoka, Fiji, seems to be the strongest of this season, in every morning with non-stop Island music. (Martin, OR)

666 R. Noumea, New Caledonia, at 1341 good with man in French over JOBK-Japan. (Martin, OR)

675 2CO Corowa, Australia, monitored at 1401 good and alone with ABC News. (Martin, OR)

693 JOAB Tokyo, Japan, very loud at 1335 with English language lessons. (Martin, OR)

720 Russia, Foreign Service good at 1320 with man in Japanese, no sign of domestics. (Martin, OR)

750 WSB Atlanta, Georgia, listened to quite often, with IDs as "Atlanta's news, weather, and traffic station" and "Newstalk 750." (Hudson, TN)

765 RSR Sottens, Switzerland, at 0025 fair with typical mellow European French pop hits, no sign of Senegal at the time. (Connelly, MA)

774 3L0 Melbourne, Australia, at 1404 good with ABC News. (Martin, OR)

846 RAI Rome, Italy, at 0019 with classical music, poor to fair in tight null of nearby powerhouse WEEI-850. About an hour earlier, when Lesotho-1197 was good, there seemed to be two signals on 846, but the WEEI splash was too intense to let me fish a South African ID out of the muck. (Connelly, MA)

864 ERTU Santah, Egypt, at 0305 fair to good with Holy Koran program parallel 9755 kHz shortwave. (Conti, NH)

890 KBBI Homer, Alaska, at 0756 good with choral music, almost gospel, into weather, Alaska Public Radio ID, and NPR program. This is the most regular Alaskan I have been hearing so far this season. (Martin, OR)

890 WLS Chicago, Illinois, "Celebrating 75 years of radio" and "Newstalk 89, WLS" ID. (Hudson, TN)

945 Africa (Angola or Sao Tome), at 2354 African music and Portuguese-sounding talk, poor with murderous slop from unnullable S9+50 melange of WROL, CHER, WPEN, CKNB, and WIBX on 950. (Connelly, MA)

972 Rep. of Korea, good at 1336 with Korean pops and woman in Korean, this is the strongest I normally get from Korea. (Martin, OR)

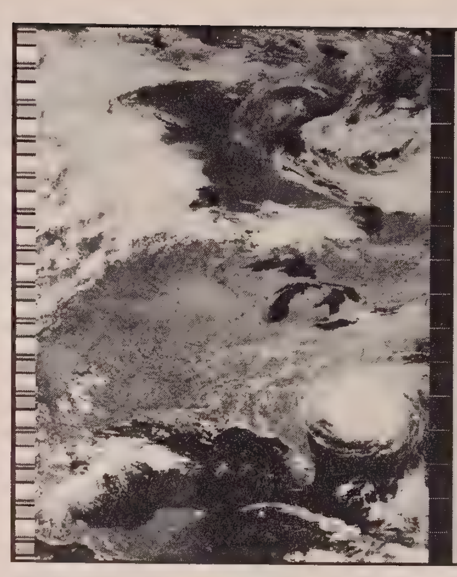
1089 Talk Radio Synchros, England, at 0135 good with Mike Dicken talk show, "You're on Talk Radio," parallel an even better signal on 1053 kHz. (Conti, NH)

1100 WTAM Cleveland, Ohio, "Newsradio WTAM 1100" and "The Big One, WTAM 1100, Cleveland's only talk radio" IDs. (Hudson, TN)

1512 Philippines, in splash at 1314 with Filipino talk, probably the new station DYAB. (Martin, OR)

1530 WSAI Cincinnati, Ohio, with IDs as "Cincinnati's original news station," and "Where the callsign means Wonderful Songs And Information." (Hudson, TN)

Thanks to Mark Connelly, Bill Frahm, Tony Hudson, Patrick Martin, and Paul Shinn. See you next month. 73! ■



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the ham column

Getting Started As A Radio Amateur

Portable Operation Is Easy!

Well, folks, the turn of the century — and the specter of our civilization collapsing because of Y2K — are mere days away! In that light, we present this month's column — the last of the Millennium! It's full of tips for ops who want to get on the air from just about anywhere. Let's hope it's for fun and not necessity.

For most hams, portable operating means Field Day. Actually, that's not a bad way to start. Field Day means thousands of ops working an emergency preparedness contest from a variety of locations away from home incorporating every aspect of portable hamming. But working Field Day is only the beginning. With a little ingenuity and today's miniaturized electronics, you can take your ham radio hobby just about anywhere. Picnics, camping trips, road trips, a weekend at grandma's, or a business trip to Tokyo (with an appropriate reciprocal ticket) — ham radio can go anywhere. And don't forget boat rides, hiking excursions, and getting on the air from your Y2K wilderness hideout!

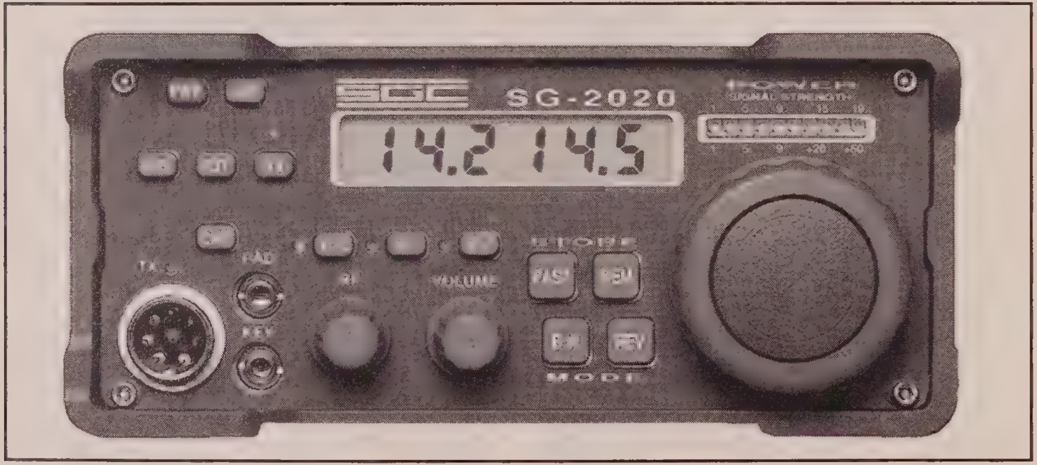
Getting Started

Choosing a place to operate depends on where you are and what you're doing. Try to remember that the basics of amateur radio still apply. The thing that's different is your location. Instead of being in your home shack, you're out in the boonies somewhere. Hilltops are pretty good for just about any radio activity, especially VHF/UHF. HF operators will want at least a few tall trees for stringing antennas, while VHF/UHF ops may have better luck if there are only a few trees (or even none) to absorb precious higher-frequency signals.

Remember to show the proper respect for the land (and the landowners) when you set up a portable station or campsite on property that's not your own. Don't break branches when stringing antennas, take down any antennas you put up, and don't leave *any* garbage or debris behind when you leave. Try to get permission ahead of time, if possible.

Which Rigs?

Any rig will work from the field as long as you can supply the required power, but most hams who operate portable do so with compact commercial mobile rigs, commercial or kit QRP transceivers, or QRP gear they've built themselves. Because most portable operation is done without access to the AC mains, most ops opt for gear that runs on 12 Vdc. Unless you're hiking or biking, you probably have a source of 12V power nearby (car alternators, automotive, or marine batteries, and so on).



SGC's SG-2020 is a multiband, multimode HF transceiver that's tiny, rugged, affordable, and built for field operations. The handy little rig measures about 3 by 7 inches and puts out 1 to 50 W while drawing very little power on receive. Check it out at <www.sgcworld.com>.

When relying on battery power, transceiver characteristics that can be ignored at home can be quite important in the field. One of the most important is power consumption. If you're operating from a battery that can't be recharged until you get home (common), your rig's power draw will determine your operating time. Reducing your transmitter power can make a big difference when you're *transmitting*, but will do nothing to save power while you're receiving, which accounts for the bulk of your operating time. To address this situation, some manufacturers have produced rigs that are designed for minimal current consumption while receiving. For example, most wilderness radio portable QRP rigs consume very little power in receive mode, and SGC's SG-2020-a low-to-medium power multimode, multiband HF transceiver designed from the ground up for field operations-treads very lightly in receive mode. And the '2020 has other benefits for portable ops. The radio is relatively moisture-proof and is built like a tank. You could probably run over the radio *with a tank* and not even dent the ruggedized mil-style housing.

Antennas

Antennas for field use should be lightweight and unobtrusive. You don't want to mar your (or anyone else's) scenic vistas with a rats nest of wires, feed lines, or aluminum tubing. I've used two types of portable antennas over the years. One is a 40-meter dipole fed with 300-ohm TV twinlead. The elements are made from 20-gauge magnet wire, the center and end insulators are made from small, thin plexiglass scraps and the center and ends are held up with 30-pound-test monofilament fishing line. With a small tuner (with a built-in balun and an SWR meter) I can work all the bands from 40 meters and up.

My second portable antenna is even easier to set up and use. I simply toss a 66-foot wire into (or over) a tree and connect the near side right to the business end of my antenna tuner. I then roll out one or two 66-foot counterpoise wires and

BY KIRK KLEINSCHMIDT, NT0Z

connect it (them) to my tuner's grounding post. This lazy vertical or inverted-L (depending on tree height, placement and density) *starts at the tuner*, which eliminates any loss from feed line runs, etc. I can tune this antenna on all bands from 80 meters and up. While using the vertical wire, I haven't had any problems with "RF in the shack" at QRP levels, but it's occasionally troublesome at 50 W or so (not to mention potential RF exposure issues at power levels above 50 W). To make this antenna even easier to use, I place an SGC autocoupler at the base of the wire vertical and run a short coaxial feed line to my operating position. This is especially handy while operating from my mini camper.

Feel free to make a "portable" version of your favorite antenna. Remember to keep things simple, compact, and lightweight. Portable antennas don't have to last forever, and they don't have to survive hurricanes and winter storms, so don't be afraid to sacrifice ultimate survivability to achieve something that doesn't hog all of the space in your backpack!

Feed Lines

TV twinlead has always been a favorite for portable use. It has very low SWR losses, it's lightweight, it can be rolled into a small, flat package, and it doesn't require special connectors. You'll need to use it with a tuner/balun, but you'll probably have that on hand anyway for multiband operation. If you have the room and can stand the weight, conventional coax works in the field as it does at home. If you're thinking of using a mini coax, such as the teeny RG-174, confine your efforts to 80 and 40 meters and keep the coax run as short as possible. Mini cables are just too lossy at higher frequencies or with long cable runs.

Safety

Before you put up *any* antenna — especially in unfamiliar areas — always double-check for hidden power lines, telephone lines, or other dangerous situations. If you see an overhead wire, always assume that it's hot. And be sure to follow the other common sense rules when setting up in the field. Don't place antennas where other people can come into contact with them. Route power cables and antenna leads so people can't trip over them. And keep your gear and any cables out of the water or away from wet areas.

Handy Stuff You Need

The best possible preparation for a portable operation is to assemble the *exact* station you'll be using and put it on the air in your backyard before you leave town. Use the same antenna, the same battery, the same tuner, etc. That way you'll know if you have everything you need when it's time to leave. When the station setup seems perfect, carefully make a checklist of your station's components and look it over while you pack items prior to departure.

A few additions to your bare bones equipment list will accommodate an emergency or an unforeseen situation. As space and weight allow, consider bringing along a miniature logbook or notebook, a tiny digital multimeter, a pocketknife or multifunction Leatherman-style tool, electrical tape, extra wire, clipleads, a compact set of screwdrivers, a small wire cutter/stripper, a pair of Walkman-style headphones with an appropriate adapter — whatever you might need.

Portable Power

Providing power to our portable stations is the bane of many radio adventurers. If you're traveling by car or boat, you probably have a handy source of 12Vdc power along for the ride. But if you're hiking, biking or canoeing, for example, you'll have to carry batteries, a small generator, or a bulky solar panel — none of which are appealing. When it comes to providing power, there are no free lunches. Basically, you have to scale your power requirements to match your available energy. For backpackers, hikers, and those "traveling light," a mini QRP rig designed for minimal (or micro) power consumption is a practical upper limit. Go beyond that and you'll exhaust your flashlight-size batteries in a jiffy. If you can manage to carry a larger NiCd pack or a gel cell, a less exotic low-power rig will work just fine. And if you can handle a medium-to full-size deep cycle marine battery that's recharged by a vehicle alternator, a compact gasoline-powered generator or a solar panel, the sky's the limit. That is, you can easily power your regular 100-W base station rig in the field.

See you next Millennium. If civilization survives the date roll-over, send your QSL cards, questions, and letters to "The Ham Column," 25 Newbridge Rd., Hicksville, NY 11801! ■

W2VU To Be New Editor Of CQ

CQ Communications, Inc. President Dick Ross, K2MGA, announced recently that Richard Moseson, W2VU, has been named the new editor of *CQ Magazine*, effective September 1, 1999. The appointment comes six weeks after the death of long-time *CQ* Editor Alan M. Dorhoffer, K2EEK, who held the position for 23 years.

Since joining CQ Communications, Inc. seven and a half years ago, Moseson has been involved in numerous innovative projects, including the creation of *CQ*'s award winning series of Amateur Radio video tapes, the management of *CQ*'s highly-acclaimed 50th Anniversary issue, the development of *CQ*'s various websites, and most recently, the launch of *CQ VHF Magazine* in 1996. He is the founding and current Editor of *CQ VHF*, and will continue in that role in addition to his new duties as Editor of *CQ*.

Gail Schieber, KC2DHK, *CQ*'s longtime Managing Editor, will continue in the position she has held for 20 years.

Those who know Rich know him to be an avid amateur radio operator and a highly-skilled editor dedicated to delivering the best possible product to his readers. Rich has a very strong commitment to making *CQ* even better than it has been in the past, and comes well-equipped to fulfill that commitment. Rich holds an Extra Class amateur radio license, and has been licensed since 1970. He is active on a variety of modes and bands on HF, VHF, and UHF.

Asked what he sees as the future of *CQ* under his leadership, Rich observed, "*CQ* has a long and highly regarded history in amateur radio, and is a fine publication exactly as it is. Every editor has different views towards the various components of his publication, and I'm no different, but what I have the privilege of inheriting is a solid magazine. Do I envision making changes? Of course, but changes intended to make an already good magazine even better. One immediate change is that we will be actively soliciting feature articles on all aspects of Amateur radio from all segments of the Amateur community." Article proposals may be sent by E-mail to CQ@CQ-Amateur-Radio.com, or by postal mail to *CQ*, 25 Newbridge Road, Hicksville, NY 11801.

communications confidential

Your Guide To Shortwave "Utility" Stations

AT&T High Seas Sets Sail For The Last Time

During the past few months, there has been a lot of discussion regarding the closing of various utility stations. The possibility of Globe Wireless shutting down their CW service has been discussed most recently. This month, there is yet another set of stations finally closing down.

On August 8, 1999, after much discussion between the Federal Communications Commission and AT&T, the FCC announced its consent to allow AT&T to close its three High-Seas radiotelephone stations. Initially requested on December 29, 1998, AT&T had been petitioning to cease operations at these three stations for almost eight months. Initially, AT&T proposed ceasing operations at KMI (Dixon, CA), WOM (Pennsuco, FL), and WOO (Ocean Gate, NJ) on February 28, 1999. This was suspended on February 19 by the FCC to allow further investigation. Following six months of discussions with AT&T, the FCC finally granted AT&T's request to cease operations effective October 8, 1999.

There were many reasons why the FCC finally agreed to allow AT&T to close these stations, but the "bottom line" was money. Over the last couple of years, AT&T had lost over $5 million per year trying to provide the High Seas Service. The FCC felt that sufficient resources are available to provide for AT&T's customer base once these stations went silent. Some resources cited by the FCC include the availability of INMARSAT service, cellular telephones in coastal waters, as well as continuing HF radiotelephone services from other service providers. Among the service providers specifically referenced by the FCC were Mobile Marine Radio (c/s: **WLO**), Stratos Mobile Networks of St. John's, Canada (primarily a SATCOM service provider), the Mexican government-owned Telecom-Telegrafos station (c/s: **XDA**), Telstra, the Australia-based telecommunications provider, and Telia, (a Swedish provider of HF and SATCOM services)

A Royal Netherlands Air Force Apache on display at the Woodford Air Show, UK, taken by Alan Gale.

It is interesting that with the exception of Mobile Marine Radio (see April 1999 edition of *Pop'Comm* for details), all of the service providers the FCC is relying on to pick up AT&T's customer base are located outside the FCC's jurisdiction. What keeps any of these stations from denying service to former AT&T customers, or worse yet, from shutting down themselves sometime in the near future? In addition, only Telia provides HF services that can cover the wide area served by AT&T. While one can not argue with AT&T's desire to shutdown an unprofitable arm of its telecommunications empire, only time will tell if the FCC's decision was indeed the correct one.

Portishead Radio Closing

Four times in the last year, BT Maritime Services has announced the closure of Portishead Radio (c/s: **GKA - GKZ**). Each time the service has received a "stay of execution." As of this writing, the service has no definite closing date. However, BT Maritime has expressed its desire to close down this service and it is only a matter of time until they will do so. By the time you read this article, Portishead Radio may be off the air. If not, better get those QSLs in soon, as it is only a matter of time.

Digital News

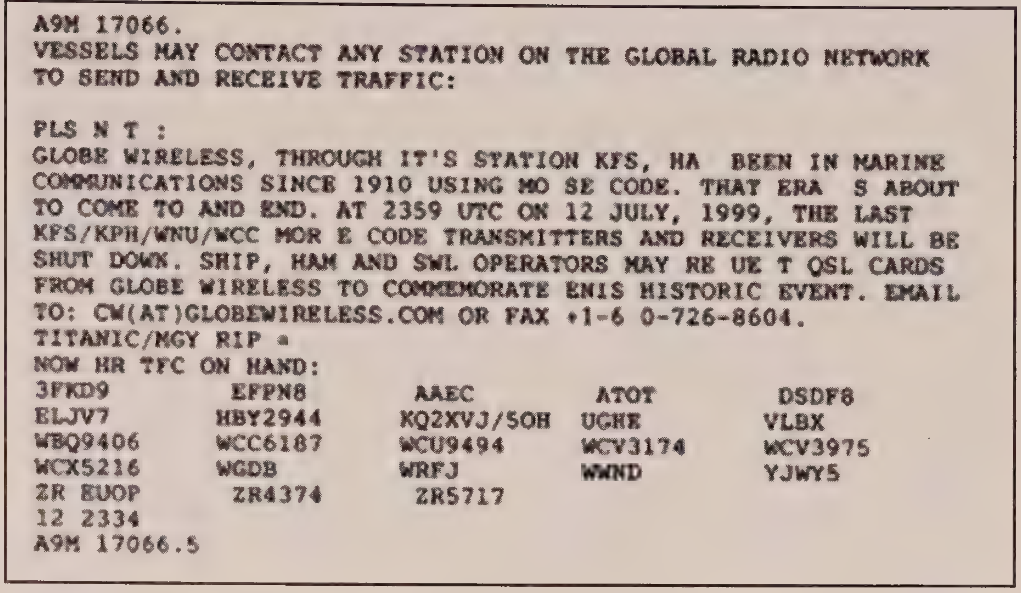
Jeff Chambers reports from Long Island, NY, regarding a "tick-tock" signal on **10588 kHz** originating from **KGD34**, National Communications Center in Arlington. This signal was active during the landfall of Hurricane Brett in Texas during August and probably served as a channel marker for FEMA, keeping other agencies away using this frequency. The signal consisted of two tones, one at 575 Hz and the other at 775 Hz. The signal would alternate the pattern, first time would be low tone then high tone, and next time was high tone then low tone. Each "tick-tock" (or "tock-tick") lasted approximately 1.25 seconds. Every nine minutes, **KGD34** transmitted a fast CW id. (**DE KGD34**) Thanks to Day Watson for the audio analysis of the signal.

Chris Smolinski, general numbers station "guru" and developer of the MultiMode digital decoder for Macintosh Computers reports that he has developed a listing of HF ACARS (a.k.a.: HFDL) stations' locations and frequencies. This information is on his Website at <**http://www.blackcatsystems.com/radio/hfACARS.html**>. Station locations around the world include Dixon (California), Molokai (Hawaii), Reykjavik, River Head (New York), Auckland, Hat Yai (Thailand), Shannon, Johannesburg, Annapolis (Maryland), and Anchorage. Check out the sidebar for frequency information.

With a network of 9-14 stations, HF ACARS can provide worldwide coverage. ARINC has developed the HF ACARS system as a complement to the existing VHF and SATCOM systems already in service. With the three components of HF, VHF, and SATCOM, ARINC can single-handedly provide message routing and servicing support from anywhere on the face of the earth. This allows ARINC to pass on significant cost savings to its clients.

Each ground station broadcasts a "squitter" every 32 seconds. Using onboard measurements of the signal quality for each frequency and station, the aircraft's system will automatically tune the best frequency which allows error-free transmission with rates of 150, 300, 600, 1200, or 1800 bps. The signal is an "adaptation of the MIL-188-110A single- tone modem standard using 8-PSK modulation."

BY RICHARD "RD" BAKER <CommConf@concentric.net> and MIKE FINK <mfink@apk.net>



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Raymond Prestridge, Texas, caught A9M, Hamala Radio, Bahrain (sometimes also called Bahrain Radio) sending out this notice with their traffic list on the fate of Globe CW broadcasts.

Chris reports that he is working on developing a HF ACARS module for his MultiMode decoder. In addition, he is still working on a Windows version of his software. Thanks for the information, Chris!

Other News

In June of this year, the Australian time standard station (c/s: **VNG**) was scheduled to be shutdown. Due to last minute funding, the station will now remain on the air until at least June 2002. After this time, the fate of the station is still unknown. It has been suggested that the site might be sold for a housing development, although the final fate won't be determined for sometime. We will be keeping you informed of any changes as they develop.

The Worldwide Utility News Club (WUN) has announced the adoption of a new Website for its club home page. By the time this column is on the streets, WUN should have its new site up and running at **<http://www.wunclub.com>**. This new site will contain new content as well as an updated layout. If you are not a member of WUN, stop by and check it out. WUN is an Internet-based only utility station only hobby club.

This month we received a letter from Globe Wireless. It seems that someone wrote to Globe and asked if they would inform us when they would be closing each of their HF stations. In a reply to CommConf, Globe Wireless made clear they do not intend to close any of their HF stations. In fact, quite to the contrary, Globe Wireless is still intent on expanding their member stations and they foresee no change in those plans. Keep in mind, when Globe Wireless ceased their CW services, ALL other HF services remained intact.

Reader Mail

A couple of readers checked in this month with some interesting letters. First, Alan Gale, from the UK, checks in with some information regarding recent operations in the North Atlantic. Alan copied the Icelandic Coast Guard helicopter "**Coast Guard 29**" while involved in a medevac operation from the F/V Moradinx (**c/s: EDQR**). During the operation, the Icelandic Super Puma helicopter was dispatched to a location approximately 270 nautical miles south of Iceland. ARCC Kinloss was also involved in the medivac with the Royal Air Force providing a Nimrod aircraft (**c/s: Rescue 11**) to fly top-cover for the mission. One of Alan's friends (Lionel Roithmeir in Guernsey, Channel Islands, also a *Popular Communications* subscriber and CommConf reader) received a QSL letter for the event that states; "The Icelandic Coast Guard radio station used a Sailor T2130, a 1.5 kW transmitter, using a 8 meter whip antenna. The transmitter is located in a 24 meter high Lighthouse just west of Reykjavik." Thanks to Alan and Lionel for sharing their interesting intercept.

Alan went on to talk about his visit to the Woodford Air Show in England this year. Much like the shows in the United States earlier in the year, the British Aerospace show had fewer exhibits than normal due to the NATO involvement in Yugoslavia. One unit of interest was a Royal Netherlands Air Force Apache helicopter, and Alan sent a nice photograph of the unit to share with all of his fellow CommConf readers. Thanks, Alan, for the nice report and the excellent photo.

Al Stern, from Florida, checks in this month with some useful information for those of us who enjoy monitoring civil aviation frequencies. Over the last several months, word of a new designation for compassion flights has circulated through the various Internet newsgroups. A compassion flight is a volunteer medical flight, such as those used for organ transplants or other high-priority medical missions. The familiar **LIFEGUARD** callsign is for flights carrying medical patients or other extremely time-sensitive cargo. The new designation allows compassion flights to file their flight plans with the prefix "**CMF**." This designation informs the ATCs that while this aircraft is not requiring any immediate special handling, it may require rapid handling upon arrival, landing, etc. This designation would be for compassion flights that do not require the immediate response from the ATCs that is required by the **LIFEGUARD** flights. The designation "**CMF**" is used followed by the last three characters of the registration number of the aircraft. Thus, N263AJ would become CMF3AJ. Thanks to Al Stern for sharing the information with us.

Another reader, Andy Malavansky, checks in from the frozen north. Andy writes; "I'm a listener from St. George Island, Alaska. I use a Drake SW8 with a 60 foot inverted V. I am looking for SW frequencies within the state of Alaska, mainly from listeners within the state. Any frequencies would be helpful; military, aircraft, public, law enforcement etc." Andy goes on to say that listening to short-wave radio is how he passes the long cold winter nights on this 14 mile by three-mile island. We highly recommend the U.S. Coast Guard on 2670, 5696, and 8983 with 4125 monitored and used in Alaskan waters. If anyone is able to help Andy out with some great frequencies from the frozen north, drop us a line. As always, please use RD's direct address at P.O. Box 4450, Youngstown, Ohio 44515.

The MidAtlanticDXer checks in again from Maryland. He reports that the URL for his Website has changed since the October edition went to press, and asks that we provide the new address to the readers. The new address is **<http://www.escape.com/~utedx/index.htm>**. He also reports that he has updated his Maryland

MARS page reported on back in October and invites everyone to stop by and to check it out. Last, he wonders if anyone can confirm the continued transmission of the VOLMET stations widely listed as operating in South America, most notably in Brazil and Argentina. He reports that he has not heard a "peep" from those stations in a long time and is wondering if they are still on the air. Again, send them to us and we will be sure to include the information in a future edition of the column.

Lastly, Robert Wukich checks in from Biloxi, Mississippi. Robert is a new reader and uses a Drake SW2 with a 30-foot long-wire antenna. Robert provides his first set of logs in this month's column. Hopefully they won't be his last!

Closing Notes

Many of us "cut our teeth" as new UTE monitors on the AT&T and Portishead stations discussed above. These stations have been a reliable source of maritime communications for many monitors. However, their closures, coupled with Globe Wireless' shutdown of CW operations, may cause many monitors may feel that the maritime aspect of the hobby is ending. Nothing could be further from the truth. Once these stations leave the air, many stations throughout the world, most notably those in the countries of Africa, Asia, and the Former Soviet Union, will move in to take up the space vacated by these powerhouses. What does this mean for the maritime monitor? For starters, it should provide the opportunity to log stations never heard previously due to the presence of these powerhouses. In addition, new stations will be appearing to replace these services. Once again, new stations to log! However, it also provides an opportunity for the maritime monitor to branch out into new areas.

How about trying civil aviation? Structured much like maritime monitoring, it is an easy activity to transition to. However, also like maritime monitoring, civil aviation is undergoing a transformation from HF to SATCOM. This transformation will take many years and there will continue to be plenty of listening opportunities, especially from the previously mentioned areas of the world. For an easy introduction to civil aviation monitoring, try the ever-present VOLMET stations broadcasting from over 20 countries around the world.

For those of you who want to move into digital UTE monitoring, why wait? Do it now! Digital decoders are available everywhere. Unlike the early days of digital monitoring using large (and expensive) teletypes, digital decoding is now easily within the reach of most UTE monitors. From simple, yet advanced freeware and shareware, decoders that operate through your computer's sound card, to advanced (and expensive!) stand-alone decoders capable of in-depth signal analysis, there is a wide range of entry points for the digital enthusiast. All it takes is a desire to learn something new. After all, that is why we all got involved in the hobby to begin with, correct?

In closing, we would like to wish you and your families the very best in this holiday season! Thanks for your support in the previous year, and we look forward to hearing from you in the next year!

UTE Loggings SSB/CW/DIGITAL

338: MM, URS in AM at 0410 w/aerobeacon, A2 mode Morse. (DC-FL)

370: RT, URS in AM at 0411 w/aerobeacon, A2 mode Morse. (DC-FL)

518: NMN: USCG CAMSLANT at 0532 in FEC w/NAVTEX broadcast. (MADX-MD)

525: PL, URS days, w/aerobeacon? A2 mode Morse ID. (DC-FL)

535: KE, URS? days in AM w/aerobeacon? A2 mode Morse ID. (DC-FL)

565: KS, URS in AM at 1841 w/aerobeacon? A2 mode Morse ID. (DC-FL)

625: UU, URS during days in AM w/aerobeacon? A2 mode Morse ID. (DC-FL)

635: KX?, URS during days in AM w/aerobeacon? A2 mode Morse ID. (DC-FL)

680: BP, URS in AM at 0350 w/aerobeacon? A2 mode Morse ID. (DC-FL)

700: MR, URS in AM at 1900 w/aerobeacon? A2 mode Morse ID. (DC-FL)

705: CI, URS in AM at 0400 w/aerobeacon? A2 mode Morse ID. (DC-FL)

785: MM, URS during days in AM w/aerobeacon? A2 mode Morse ID. (DC-FL)

960: Russian LL, days in AM w/aerobeacon? A2 mode Morse ID. (DC-FL)

2201.3: GYA/MGJ RN CARB in RTTY 75/850, was missing for a few days. Back with altered characteristics at 2030. (JD-UK)

3187: *USS Thorne,* Cape Osbourne, KING 1 and KING 2 at 0342 w/comms related to subsequently scrubbed attempt at launching space shuttle at Cape Canaveral/KSC. Stopped hearing "Cape Osbourne" and started hearing "DOD Cape" instead at 0406, wkg KING 1, KING 2 and *USS Thorne.* Continued until 0521 when last round of transmissions began announcing postponement until 0424. (JK-NY) All in USB.

3335: Russia L, in AM at 2135 w/beacon, A2 mode carrier + USB keyed on 2 KHz. (DC-FL)

3358: UNID at 0046 in FAX 120/576 (presumed) idle station. (MADX-MD)

4017.7: AAT7YS: U.S. Army MARS at 0126 in FEC w/simplex net. Stations taking turns working in Sitor-B. (MADX-MD)

Abbreviations Used For Intercepts	
AM	Amplitude Modulation mode
BC	Broadcast
CW	Morse Code mode
EE	English
GG	German
ID	Identification/led/location
LSB	Lower Sideband mode
OM	Male operator
PP	Portuguese
SS	Spanish
tfc	Traffic
USB	Upper Sideband mode
w/	With
wx	Weather report/forecast
YL	Female operator
4F	4-figure coded groups (i.e. 5739)
5F	5-figure coded groups
5L	5-letter coded groups (i.e. IGRXJ)

4045: UNID: at 0031 in PACTOR 100/200 clg NNN0ASI. Into ARQ at 0032 clg "NASI." Then calling NNN0GBG in PACTOR. (MADX-MD)

4280: PBC, Dutch Navy w/typical CARB w/ "two-digit and a letter" groups. (PP-FR)

4363: WOM, High Seas HF w/mechanical male voice announcing closing msg info at 0105 in USB. (MF-OH)

4551.4: WPC, Pin Oak Digital, at 0516 in CW ident and 100bd unid PSK signal (Pin Oak's POD Link HF modem). (MADX-MD)

4739: 5JB clg CARDFILE 71B at 0101, CARDFILE 71A also heard in USB. (MF-OH)

4742: ARCHITECT (RAF Command) at 0103 w/airfield wx report. (RP-MD)

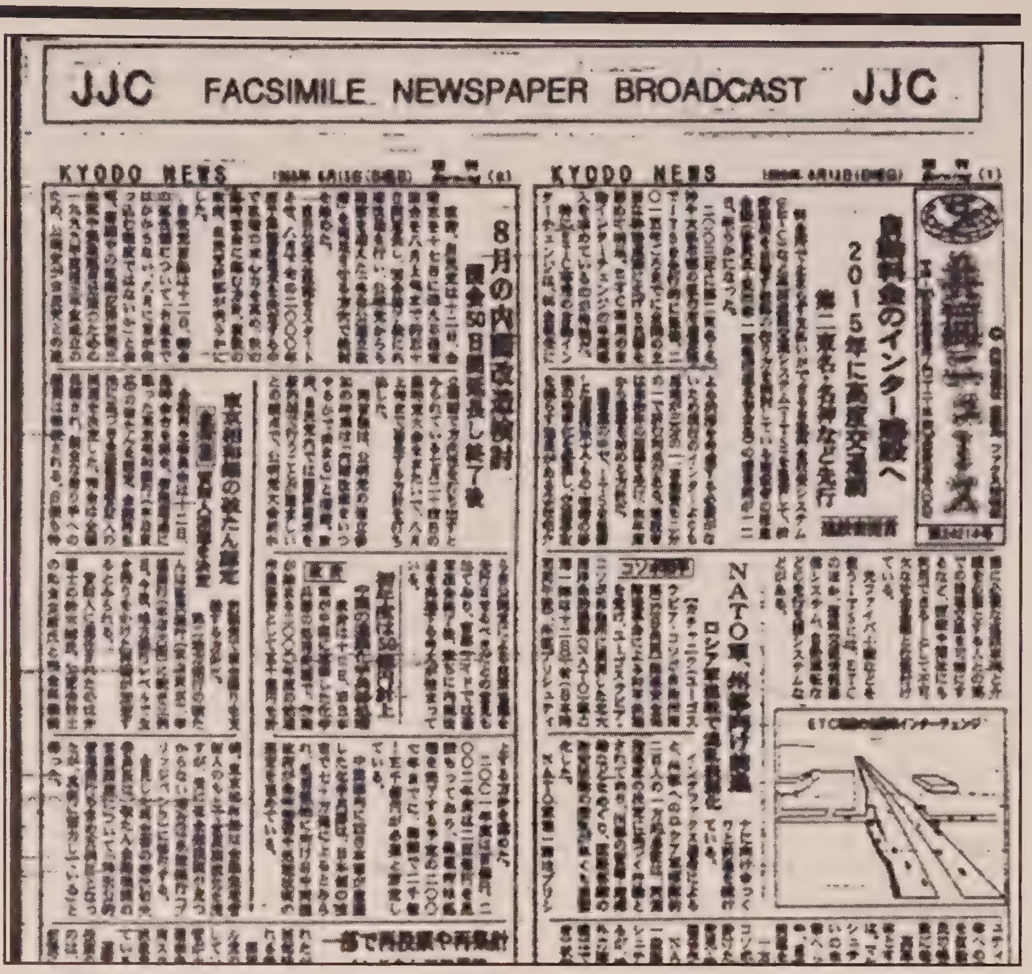
4840: A6M, Z6Q, S7P, U3C, F0K, J8W and a number of others in LSB reporting to N1L. Lots of other calls, but faded into the static. Probable U.S. Army or NG at 1300. (JM-KY)

5080: *USS John C. Stennis* Carrier Battle Group: FOXTROT, LIMA, KILO, ECHO, and JULIET w/tracking net comms re: a live-fire exercise and did they "shoot yet?," unit adv their bird went straight up. Also on freq, range safety HOSTILE METHOD BASE, HOSTILE METHOD 08, and PLEAD Control at 0105 in USB. (JJ-CA) (*Sounds like a surface-to-air missile exercise — Ed*)

5105.6: JMW9, Unid (don't know if this is a genuine ITU callsign) in CW at 2100 clg AQH4. Slight change of freq since last report. (JD-UK)

5110: Possible Australian environmental activists w/3NMX6 clg 3NMX4 asking for situation at mountain and advising "Combi Dave" not to mention places or names as someone may be eavesdropping at 0726. (SD-AU) All in USB.

5140: Missouri Operation Secure net in USB at 1430. Didn't copy calls because I thought this was the Oklahoma net, which also uses this frequency. State EOC was the NCS. Secured at 9:35 AM local (CDT). Missouri Operation Secure Net, first heard today at 1430, lots of stns called. Oklahoma Operation Secure Net in USB, shifts to 7477 15 minutes later. Very weak at my location. Haven't heard them for a while. (JM-KY) All in USB.


JJC FACSIMILE NEWSPAPER BROADCAST JJC
KYODO NEWS
KYODO NEWS

Another JJC, Kyodo News reception, this one by Raymond Prestridge, also on 17069.5 kHz.

5320: USCGC Mako (WPB 87803, Cape May, NJ) at 0038 clg USCG Grp Moriches (Long Island) then at 0049 clg USCG Group Woods Hole (Mass). (RP-MD)

5461.5: The Squeaky Wheel, URS in AM at 1705 w/repeating tones not unlike the Buzzer/Pip concept apparently, good level. Generally better reception in the local mornings from this one, so maybe generally to the west of Moscow. (DC-FL)

5610: Portishead LDOC wkg various a/c at 0252 in USB. (JK-NY)

5680: DRAT, FGS Emden F-210, at 1134 in r/c w/Glucksburg Rescue. Kinloss at 1758 wkg Coastguard 29 Bravo (Icelandic CG helo). (AG-UK) (*see Readers' Mail for more details — Ed*) Kinloss Rescue at 1108 wkg Rescue 169, en-route Bude, Cornwall. (HOOD-UK) All in USB.

5687: SHADOW 93 clg PLANTATION Ops at 0215. (MF-OH) SHADOW 92 (MC-130E, Hurlburt 16SOG) clg Plantation Ops (Hurlburt) at 0310. Reports off at 5 past hour; rqsts SDF personnel in field be cntctd by cell phone 589-XXXX and told 92 will rendezvous with them at 2330 local. (ALS) All in USB.

5696: CG 1712 (C-130H, Clearwater, FL CGAS): CAMSLANT-Chesapeake at 0630. CAMSLANT dispatches 1712 to position where flares were reported, but 1712 reports he had seen the "flares," and they were actually a meteor shower. He warns that there will probably be other reports of flare sightings because the meteor shower is expected to continue. (ALS-FL)

5708: Air Force 1 and SAM 973 in a/a comms, inbound Los Angeles, re: arrival times and phone # for departure coord. Also, they sometimes used impromptu callsigns: YODA and LUKE. When I last logged these two in San Diego, they used: GROUND CONTROL and MAJOR TOM, so it seems to be a regular thing w/these ops at 0448 in USB. (JJ-CA)

5711: Moffett Rescue wkg KING 61 re: STING 01 and 02 flights canceled, no AR possible tonight at 0313 in USB. (JJ-CA)

5848.5: F4C, (ncs) clg WUE6, USA COE, Nashville, TN, I5G, K4H, L6B, I1X, I1T, X7W, F5V, Z7E, I1P, D5I, D1S, D8U, S3Q, Z8F, Z8G, P2N, and P7S at 1332. Closed the net at 1400. (JM-KY)

6224: USN Bravo Whiskey net durig JTFEX 99-2 exercise, *USS John F. Kennedy* and battle group, offshore South Carolina/Georgia area, QSY'd to 4101 at 2130 in USB. (JK-NY)

6470: SXA24, Greek Navy, Piraeus in CW at 0255. (MR.X) Greek Navy Pireaus, GRC w/channel marker at 0200. (RP2-TX)

6577: New York Radio wkg American 688 and KLM 783 at 2356 in USB. (MF-OH)

6604: New York Radio aero meteo report at 0033 in USB. (MF-OH)

6713.5: SODA 53 clg SODA CONTROL in USB at 2309. Couldn't hear CONTROL, but could hear other stns on HF. (JM-KY)

6726: Unid, in FSK 75/850 w/reversals at 1258. (MR.X)

6730: EXECUTIVE-1-FOXTROT, w/ Hillary Clinton and DV-2 + 20, inbound Andrews, wkg Andrews VIP at 0620. (JJ-CA) //8032 //11466

6754: CHR, Trenton Radio w/wx BC for cities in Canada at 0222 in USB. (CH-KY)

6761: PEACH 11 clg INDY 89, nothing heard at 0049. PEACH 11 clg INDY 85 at 0123. All in USB. (MF-OH)

6815.6: H6K, wkg GANTSEC on USCG Secure 3E11 at 2238. GANTSEC wkg CG 1719 at 2239 again at 2254. (JK-NY)

6870: FAA Southern Region Net in LSB, KUV64 is normally NCS. (JM-KY)

6910: Two unids in USB at 2047, one very strong station told the other to meet him on UHF TACSAT. Michigan NG heard here in the past. (JM-KY)

6975: Air defense net?, URS in CW at 1555. Mostly sending strings once a minute such as "BT 99?1957?9?????" where "1957" is local Moscow time (increments each tx). At 1955 sent app target info string however, "BT 11989T35218654 BT 219899T1T7T6T8." T is undoubtedly a cut zero. This one moves around a bit and has been heard here in FL. (DC-FL)

6990: FDG, French Air Force Bordeaux at 2339 in RTTY 50/410 w/voyez le brick and RY's. Weak and broken, but readable. Off the air right at 0000. (MADX-MD)

7469: ZION 11 poss E-4B, wkg Andrews at 0313 in ANDVT and then clear-voice re: back up here again around 0700. (JJ-CA) //6683 KILN 32, suspect E-4B, wkg Andrews re: we're down to 30 mins. flight-time remaining and still no luck with the crypto circuit at 0449. All in USB. (JJ-CA)

7537.2: XFED and XCNW at 1355 w45/170 RTTY w/mission status reports in the following format XFED DE XCNW FROM XNUD, MISSION 2FBD1A AIRBORNE. (JM-KY)

7555: V2A, Atencion Numbers Station at 0331 in AM YL/SS/5FGs already in progress. (MADX-MD)

7605: 93 MIKE clg 93 ALPHA at 2006 in USB. (JJ-CA)

7621: Unid, presumed Australian navy 16-channel VFT keyed on 14 channels - only Ch. 7 and 15 were idle at 1615. (JD-UK)

7660: VKG, Lightning Ridge clg VL2SES Glendale at 2334 in USB w/query over HF radio and advising he is mobile 50km South of Walgett (N.S.W.) and will contact later due to high amount of noise. (SD-AU)

7690: CHIEFTAIN, RIDER, COWBOY 44, ICEPACK, and others in USMC tactical exercise comms in USB at 2244. (JJ-CA)

7695: TWISTED EAGLE (?) clg LUNCH BOX (?) in USB w/no joy at 2358. (JJ-CA)

7725: 5 Number Grouping with a YL in SS in AM at 0523 (RAW-MS)

7778.5: Unid, at 1613 in USB ALE on FBI frequency. (JM-KY)

7903.5: FBI call sign (but didn't copy it all) with a radio test and phone call in USB after ALE at 2113. KRR50 and SE QUANTICO at 1525, FBI? after ALE. (JM-KY)

8047: SAM 973 and TROUT 99 wkg Andrews VIP at 0115 in USB, 973 also on F-543. HON-

ORABLE wkg Andrews re: four-tone data circuit, extended "DOWNTOWN." at 0302. MAGNAVOX wkg Andrews for a sig check and then to 11220 re: call landline. Later found back on 11220 w/data at 0152. (JJ-CA)

8093: NGB, (National Guard Bureau) stns up in USB at 1450. Think they may be active every Wednesday around this time. Have heard two times in the last month on Wednesday, may start at 1430. (JM-KY)

8095: Aero net, URS in USB at 0330 w/OGURCHEK wkg FABRIKAT, ments Vnukovo airport, fair. (DC-FL)

8117: BMB, Taiwan, in CW at 1646 w/long EE wx bcast, ID then off, fair. (DC-FL)

8149: *USS John C. Stennis* Carrier Battle Group w/BRAVO WHISKEY, HOTEL, DELTA, and others w/tracking net comms, e.g: "confirming two back on deck." at 2309 in USB. (JJ-CA)

8279: UDPL, TKH Sormovskiy 119 at 0713 in USB wkg OHG for pp to Cyprus. (HOOD-UK)

8346: UEDT, TKH Sormovskiy 45 at 0614 in CW w/msg to UBO3. (HOOD-UK)

8379.5: P3DQ4, M/V Pal Eagle at 1107 in ARQ w/msg via SAB login 26793 PALEG. (HOOD-UK)

8387.5: VTXK, M/T Sabarimalai at 1840 in ARQ AMVER via A9M (31013dwt tanker) (HOOD-UK)

8391.5: UEYP, TKH Tonya Bondarchuk at 0703 in ARQ w/admin to UAT. (HOOD-UK)

8394.5: UVCL, TKH Dakota at 0623 in CW clg USI (is ex Cherokee/Volgo-Balt 161 owned by Prestige of Kherson). (HOOD-UK)

8397: XU7HJ, M/V Soyana at 1830 in ARQ w/msg in EE, to Barcelona via UCE (is ex Aleksandr Pankratov, UCMW). UCON, TKH Pioner Moldavii in 0719 at ARQ w/psn rpt to UCE. (HOOD-UK)

8418.4: DZX, Manila Radio, PHL w/CW wx at 1000. (RP2-TX)

8463: CKN: CANFORCE Lazo BC at 0412 in RTTY 75/810 w/"nasw de ckn zkr f1 2386 4170 6254 8324 12380 16558 22200 ar." (MADX-MD)

8478.5: FUF, French Navy Fort de France at 0416 in RTTY 75/790 still running call tape using international call. Hasn't switched to NATO RI's yet. (MADX-MD)

8592.5: Unid, presumed Australian Navy 16-ch VFT keyed on ch's 3, 10, and 11 only at 1645. (JD-UK)

8600: XSV, Tianjin in CW at 2035. (PP-FR)

8700: 9AR: Riejka Radio at 0438 in CW w/call tape. (MADX-MD)

8705.4: PKN, Balikpapan Radio, INS w/CW marker at 1115 silence around 1130 then PKC. (RP2-TX)

8764: NMC, mar info BC (CAMSPAC, Pt. Reyes, CA) at 0452 w/synth OM (perfect Paul). NMN, mar info BC (CAMSLANT, Portsmotuh, VA) at 0500. (JK-NY)

8825: New York Radio wkg Windsor 953 at 0001 in USB. KLM 776 req deviation due to wx (Hurricane), New York Radio req switch to 8933 for sigmet at 0005. (MF-OH)

8933: New York Radio wkg KLM 776 wx deviation at 0010 in USB. (MF-OH)

8971: BLUESTAR clg WRANGLER 06 w/no joy at 0729. (SD-AU) WAVERIDER 18 wkg WESTERN SKY, possibly related to *USS John F. Stennis* Y2K exercise. All in USB. *(WESTERN SKY is one of those callsigns that has never been thoroughly identified. Active w/USN, USCG, and U.S. Customs units. Anyone in the know? — Ed)*

8974: WINDSOR 505 clg Air Force Sydney at 2149 in USB w/departure msg, selcal check and request for them to contact ATC TINDAL to see if control zone will be active at the time of arrival. (SD-AU)

8978.4: MIKE-7-JULIET wkg HABITAT re: tell VP-40 the problem w/the pilot's window maybe caused by a bad circuit breaker at 1935. HABITAT wkg VICTOR-2-LIMA re: relief flight, BRAVO-3-YANKEE who is one hour late at 0327. (JJ-CA) All in USB

8983: CAMSLANT Chesapeake at 0054 in USB w/Rescue 1713 (HC-130, Clearwater) asking 1713 to contact JIATF-East (Joint Interagency Task Force, Key West) (RP-MD)

8989: GIANT 392 clg MAINSAIL on "8989" at 0521. (JJ-CA)

8992: Y5G w/pp via Hickam to NCCS Guam at 0710, re: traffic status, lengthy pp. Subsequently another pp to NCCS PAC (also referred to as Yankee CAMSPAC) re: apparent difficulties w/comm equipment, also lengthy pp. After about an hour total of monopolizing the frequency comms were apparently established on EHF with NCCS PAC and patch terminated. (JK-NY) All in USB.

9005.4: LIMA-4 wkg HABITAT monitored at 2036. (JJ-CA)

9016: THUMPER 88 wkg McClellan for a pp at 0035. (JJ-CA)

9023: DRAGNET UNIFORM at 1732 in USB clg BROCHURE, 128th ACS Volk Field, WI. Also heard on 364.2 UHF. (JM-KY)

9025: Offutt, AFB w/EAM in USB at 2329. (JM-KY)

9057: REACH 3599 (C-17) wkg HILDA WEST w/ "ALE test." at 0215. (JJ-CA)

9120: PORTABLE and CACTUS in voice and encrypted data at 0119. (JM-KY) NAVY 496 wkg Andrews VIP for sig checks at 2327. (JJ-CA) //11460 All in USB.

9142: English Lady (E17) at 0749 in AM w/numbers stn ending w/420 420 181 181 00 (SD-AU)

9145: SEAL 8 (sounded like) clg SEAL 11 after a very strong ALE burst in USB at 1855. Up again at 2022 w/test counts after ALE, but no id. (JM-KY)

9192.2: ALPHA FOXTROT Australian Mil tracking net w/FOXTROT DELTA and FOXTROT at 1106 in USB. (SD-AU)

9320: SAM 204 wkg Andrews VIP for pp at 2030 in USB re: 0040 Hickam wx. (JJ-CA) //13211 SAM 201 wkg Andrews VIP re: trying F-961 or maybe F-561 not found/heard here 0226. (JJ-CA)

9323: Cuba V2 spook, in AM at 0009 w/SS 5FGs. (DC-FL)

9960: DEL MAR, MIRAMAR, AREA 32, and AREA 43 in net comms in USB at 0000. (JJ-CA)

Table 1: HF ACARS Frequencies

Frequency	Station(s)
5655	Hat Yai
6535	Auckland
8834	Johannesburg
8843	Shannon
8885	Annapolis
8912	River Head
8927	Dixon
11184	Reykjavik
11312	River Head
11327	Auckland
11348	Molokai
11354	Anchorage
11384	Shannon
13309	Hat Yai
13276	Dixon
13321	Johannesburg
15025	Reykjavik
17919	Dixon, River Head
17934	Molokai
21934	Dixon, River Head
21949	Johannesburg

10046: 4XZ, Israeli Navy, Haifa in CW w/5L msgs to IB7G at 0226. (MR.X)

10051: Unid, Aviation Weather w/wx for NE USA at 2004 in USB. (CH-KY) *(This would be WSY70, New York VOLMET at this time, Gander VOLMET works at H+20, H+50 — Ed)*

10057: San Francisco Aero wkg aircraft in the Pacific giving altitudes monitored at 0108 in USB. (BF-NM)

10194: WGY916, FEMA MERS, Denton, TX, and WGY908, FEMA, Denver, CO, w/phone call test after ALE in USB at 1522. (JM-KY)

10205: RPT78, (presumed — no ID seen) in RTTY 850/50 w/meteo included SYNOPS from "IRKT" (Irkutsk?) and "MNUB" (Ulan Bator) at 0900. (JD-UK)

10224: Unid, in RTTY 45/170 sending "ANTE" over and over, never sent ID at 0121. (BF-NM)

10355: HN4C, NR 683 SE GR 7 at 0210 in CW. (MR.X)

10435: CHARLIE 72 possible New Zealand Mil net at 2200 in USB w/ LIMA 52 reading them loud and clear. (SD-AU)

10473.5: FDY, French AF Orleans in RTTY 50/400 at 1745 w/test tape w/usual 10-bit Baudot. (JD-UK)

10493: HURON LAKE clg DAYDREAM at 1638. AUCTION BLOCK clg NECESSARY at 1639. KAE387, COTHEN, NC w/WGY912, FEMA, Berryville, VA checking into net at 1758, possibly Hurricane Bret related. WGY912, FEMA, Berryville, VA, WWJ85, FHWA, Ames, IA, and KGA93, FCC HQ, Washington, D.C., at 1336 for Hurricane Dennis. Active most of the morning. All in USB. (JM-KY)

10588: KGD34, NCC, NCS Arlington at 0024 in USB w/marker. Every nine minutes into

CW w/"de KGD34." Related to Hurricane Brett? (MADX-MD)

10588.7: WWJ85, FHWA, Ames, IA, on the KGD34 SHARES BBS in Pactor at 1949. This is a SHARES experimental frequency authorized for digital and voice transmissions. Actual frequency 10586.5. (JM-KY)

10590.3: WGY901, WGY912, and WGY911, FEMA MERS, Maynard, MA, in clear 75 baud RTTY at 1410, 10 le tests and keyboard to keyboard. WGY912 operator told the WGY911 operator via TTY that he must be poking at the keyboard with his feet! (JM-KY)

10780: RAZOR 33 (JSTARS E-8C, Robins AFB 93ACW) w/Cape Radio w/pp to 497-DSN (RAYMOND 19) at 1640. SENTRY 63 (E-3 Tinker 552ACW/966ACS, back-end sign) wkg Cape Radio w/pp to 339-DSN (Tinker's EAGLE 2) at 1610, re landing at Tinker at 1900, and to let maint. know. SHADOW 19: at 2028 wkg Cape Radio. (MADX-MD) All in USB.

10799: WAR EAGLE, WOLFPACK, SABER, RACCOON, and others in USB. WAR EAGLE fair signal here, all others very weak at 0300. (JM-KY)

10993.5: ROMEO 3 SIERRA U.S. mil net at 0541 in USB w/ R3S advising that they do not have selcal and will not be able to contact when underway. (SD-AU)

11000: RIW, URS in CW at 1420 w/Khiva Naval Radio, wkg RIRxx (missed c/s), xlnt. (DC-FL)

11053: SPAR 66 w/DCINC Admiral + seven, inbound Vilnius Lithuania, wkg Andrews VIP for a pp to AMOCC at 0548. USNS Mercy (T-AH 19) clg *USS Milius* (DDG 69) for a r/c in clear-voice and ANDVT. Later clg any stn this net, all w/no joy at 1530. PACAF 01 inbound Hickam, wkg Andrews VIP for a pp to Hickam Ops at 0430. (JJ-CA) //9120 All in USB.

11053.6: DELTA-2-FOXTROT wkg unid re: meet me in the green, ANDVT tones followed at 1534. (JJ-CA)

11058.1: Elmendorf w/series of EAMs and SKYKING msgs at 0422. McClellan w/series of EAM's at 0432. (JJ-CA)

11175: Andrews wkg pp for CARDFILE 71A to DSN#942-4065 at 2340. (MF-OH) Reach 618 (C-141R, Charleston AFB) at 0043 w/Ascension in pp w/Charleston meteo w/wx for Atlanta, then Andrews. Id's as Charleston aircraft on Presidential support mission on ground at Hartsfield Airport. Has no way to file flight plan and wants CP to assist. (RP-MD) All in USB.

11178: PJC, (Dutch Navy, Curacao) at 2251 w/Falcon 01 (Dutch Navy patrol aircraft) w/pos report. Hunter 01 (British accent) at 0405 w/PJC (Dutch Navy, Hato, Curacao) reporting " Blue Blue." (RP-MD) All in USB

11202: CAMSLANT wkg Cutter B1K, gave shoreline search pattern for B1K's helo to follow. Cape Sable to Cape Romano, inland three miles then back to Cape Sable, then repeat. (JK-NY)

11220: JGO 53 inbound Tuzla, Bosnia w/ETA of 0645, wkg Andrews VIP for pp to AMOCC and LQTZ wx. SAM 682, inbound Moscow, wkg Andrews for pp monitored at 0408. (JJ-CA) All in USB.

11226: Lajes w/periodic EAM tfc, and Andrews wkg both Lajes and Offutt w/sig checks at 0146. (JJ-CA)

11232: Canforce 3723 (C-144, #144615) at 0236 w/Trenton Mil reporting departure from Trenton at 2237 w/ETA to Costa Rica of 0345. CF3723 reports that diplomatic clearance for Colombia is still outstanding. Message to be relayed to CDLS, Washington, NDOC Ottawa and 412 Sqdn Ottawa. Shadow 99 (C-130, Hurlburt, FL) at 0114 w/Trenton Military in pp w/Ops reporting they are diverting to Little Rock AFB w/IFE— shut down #3 engine. Cancelling scheduled AAR. Second pp to DSN 731-XXXX to Little Rock meteo, for landing wx in 10 minutes. Trenton relays wx to Shadow 99. All in USB. (RP-MD)

11244: Numerous stns passing test messages to SKYMASTER (SULFATE) at 2315 in USB. SULFATE still nearby and being heard in WBFM (230.650 MHz) simultaneously. (JM-KY)

11300: Cairo and Khartoum Radio (MWARA AFI-3/MID-2) at 0152 wkg flight SML 2542 which departed Cairo enrt to Addis Ababa. Cairo also wkg Corsair 9011. (RP-MD)

11401.7: Unid, burst mode, cycle time 1.250 seconds (i.e. four bursts in five seconds), 100 bd, NOT any of ARQ, ARQ-S or SWE-ARQ idling; any ideas? at 1730. (JD-UK)

11047: H6L, unid French embassy w/lots of 5L tfc to RFGW in 192bd FEC-A monitored at 1740. (JD-UK)

11232: Canforce 3723 (C-144, #144615) at 0236 in USB w/Trenton Mil reporting departure from Trenton at 2237 w/ETA to Costa Rica of 0345. CF3723 reports that diplomatic clearance for Colombia is still outstanding. Message to be relayed to CDLS, Washington, NDOC Ottawa and 412 Sqdn Ottawa. (RP-MD)

11233: Croughton wkg LEVERAGE at 0404 in USB, sending data for training purposes, after making initial contact on 11175. Initially contacted Hickam on 8992 at 0354 but Hickam was unable or unwilling to accommodate. (JK-NY)

11408: Coast Guard 1702 wkg SERVICE CENTER w/periodic ops reports in USB at 1710. (JJ-CA) (*SERVICE CENTER is the US Customs Service in Oklahoma City — Ed*)

11445: ROEBUCK, MERRILY, and SHALLOW HOLE, re: trying freq A-10 at 2357. TIMOTHY wkg ANGORA RABBIT re: trying freqs A-8 and A-12 at 0058. (JJ-CA)

11455: Unid, FAPSI in RTTY 75/500 w/link 70004 at 1800. (JD-UK)

11466: EXECUTIVE-1-FOXTROT (SAM 204) w/Hillary and Chelsea Clinton, inbound Aspen wkg Andrews VIP w/periodic sig checks at 0006. SAM 204 outbound Aspen for Denver, clg Andrews VIP with no joy. Later on 11175 w/pp to Andrews, via Elmendorf, to reestablish this Mystic Star circuit at 0210. All in USB. (JJ-CA)

11498: BRAVO CHARLIE wkg MIKE, LIMA, JULIET, NOVEMBER, and others in USB re: unless something important comes up, going monitor only on this circuit 0345. (JJ-CA)

11637: WHX51, FAA, Des Plaines, IL, and KLO87, FAA, WV in USB, w/VP-100 and 110 or 150 baud ASCII at 1535. WHX51, FAA, Des Plaines, IL, and KLO87, FAA, WV, in USB at 1304 after ALE connect. Back to land line after brief signal check. WHX23, FAA, unknown location in USB at 1319. (JM-KY)

12152: Unid, 2 channels, in PICCOLO w/idle ch 1, crypto ch 2. (JD-UK)

12226: RFFME, French Navy, Paris in FSK 150/850 at 2230. (MR.X)

12270: SAM 206 outbound Hickam for McChord, wkg Andrews VIP in USB for sig checks. Later on 15041 and 13960 wkg Andrews VIP for BLADERUNNER re: getting a SATCOM pp for JSOC Commander, Brigadier General xxxx, in Germany. SATCOM access was denied at 1931. (JJ-CA)

12562.5: UHMK, SRTMK Strelnya at 1025 in RTTY 50/170 w/admin from Km Solovyev to UIW. (HOOD-UK)

12564.5: UDAR, SRTM Ulan at 0708 in RTTY 50/170 w/crew TGs to UIW. (HOOD-UK)

12565.5: UAVJ, DOVSK (AG-1336) at 0652 in RTTY 50/170 w/admin from Km Povarnitsyn to RKLM. (HOOD-UK)

12566.5: UAUD, BATM Marshal Krylov at 1056 in RTTY 50/170 w/admin to UIW. (HOOD-UK)

12567.5: UAMB, BMRT Kokand at 0815 in RTTY 50/170 w/admin to UIW. (HOOD-UK)

12568: UBQB, General Radziyevskiy (MA-0063) at 0730 w/crew TGs to UDK2. UAYP, Leonid Ivanov (MB-0018) at 1214 in RTTY 50/170 OBS w/msg to UDK2. (HOOD-UK)

12572.5: UATY, BATM Pavel Batov at 0819 in RTTY 50/170 w/admin from Km Duvakin to UIW. (HOOD-UK)

12574: UAYX, BMRT Pavel Panin (MB-0013) at 0728 in RTTY 50/170 w/admin from Km Marakulin to UDK2. (HOOD-UK)

12576: UCSS, Kapitan Telov (MA-0060) at 0704 in RTTY 50/170 w/admin to UDK2. (HOOD-UK)

12579.5: YLQ, Riga Radio at 1115 in FEC w/local wx and currency exchange details. (HOOD-UK)

12599.5: UAT, Moscow Radio at 0703 in ARQ w/status rpt to UIFV TKH Amderma (88458 dwt ro-ro). (HOOD-UK)

12662: 7TF: Boufarik Radio at 0338 in CW w/call tape. "cq de 7tf qsk 8367/8367,5/8368/8369 khz h24 tks k = =" (MADX-MD)

12709: A9M: Baharain Radio at 0340 in CW w/call tape. (MADX-MD)

12714: Unid, in FSK 100/850 monitored at 1309. (MR.X) U.S. Navy RTTY 50/850 suspect either Norfolk or Mayport. Logged tfc from USS HUE CITY re exercise "Shamoo Hunt." Also tfc from COMSUBLANT, NAVLANTMETOCCEN, etc. Lately information on HURR Dennis and TS Cindy. Transmitting near around-the-clock. (RP2-TX) (*Exercise Shamoo Hunt was an exercise involving the Brazilian submarine* SS Tamoio *conducted off of Puerto Rico. The transmission site is apparently NAR, Key West, but this* *has not been 100% confirmed. — Ed)*

12732: USU, Mariupol Radio at 0705 in RTTY 50/170 w/nav wng (PRIP) and currency exchange info. (HOOD-UK)

12738: PPR, Rio in CW at 2118. (PP-FR)

12742: CBV, Playa Ancha Radio, CHL w/120/576 wefax at 2310. This freq parallel w/17146.5 and 8677.3. (RP2-TX)

12801: TAH, Istanbul in CW at 2140. (PP-FR)

12808.5: VTG, IN Mumbai, IND w/CW channel marker at 1230. (RP2-TX)

12815: LYA, Klaipeda Radio, LTH w/CW tfc list at 1000. (RP2-TX)

12856: XSG, Shanghai Radio in CW from 1500-1600 w\CQ CQ DE XSG. (PP-FR)

12965: USO5, Izmail Radio at 0622 in CW w/msg to ENUL: TKH Yuriy Krymov. (HOOD-UK)

13031.25: FUF, French Navy Fort-de-France, Martinique in FSK 75/850 at 1239. (MR.X)

13215: STARGATE at 1806 in USB clg BANDSAW INDIA. (JM-KY)

13217: SAM 204 w/DV-2 + 7 outbound Hawaii for Los Angeles AFS, wkg Andrews VIP for a pp to ORBIT Ops re: 0305 ETA to KLAX at 0030. SPAR 65 wkg Andrews VIP re: going to 15048 at 0045. All in USB. (JJ-CA) //8026//11214

13244.2: Message from KHA908, NASA Ames Research Center, Mountain View, CA, retrieved by unknown stn in Pactor mode from the SHARES BBS at 1553. (JM-KY)

13270: Gander Radio w/wx for SE USA at 1647 in USB. (CH-KY)

13396.7: prob Egyptian Embassy Washington DC at 2311 in ARQ w/several msgs. QRT at 2349 w/"yks yks." Also at 2010. (MADX-MD)

13421.6: Unid in Pactor-II at 2215. (MR.X)

13434: FHWA Ch. F42, w/Federal Agencies Region 7 HF Net. May also use 12178.7 (FHWA F41) prior to this. Between 1430-1500 the following where used. 4821(F-14), 5755.5 (F-23), 7743(F28), 9185(F31). (JM-KY)

13440: NAVY 496 wkg Andrews VIP for msg relay to Jacksonville NAS and then comms termination w/Andrews at 1704 in USB. (JJ-CA)

13457: FAA Western Region Net in USB at 1630. (JM-KY)

13580: Unid, in 36-50 50/200 at 1346. (MR.X)

13777: BONE 2 at 1957 in USB reporting ETA. May have been on 13777.5, but I had my radio in one kHz steps and couldn't switch to 100 Hz fast enough. Strong broadcast station interference. (JM-KY) (*Probably 13777, which is a discrete frequency for 28 Bomb Wing at Ellsworth AFB, SD. Bone (as in B-ONE hi!) and Tiger calls, both B-1B aircraft, have been logged wkg Rover Control or RAYMOND 33 (Ellsworth AFB) there before, but infrequently — Ed)*

13986: Unid, in Pactor-II heard at 2200. (MR.X) (*prob WRD719: SailMail Inc. licensed for 13986. Station uses PACTOR traffic and "call tape." Logged several times in the past here. — Ed)*

14325: Lots of comms on the Hurricane Watch Net freq w/almost continual communications. Also discussed Research Vessel White Hawk. (ALS-FL) Net Control PJ8DM req stns in the North/South Carolina area w/instrumented wx stns to report in at 2328. (MF-OH) All in USB, re Hurricane Dennis.

14396: NNN0AIO (Illinois) heard at 0135 in USB w/AAR7AL (Nebraska) in net check. (RP-MD)

14712.7: FELO and RULY in 300 baud Packet at 1934. Passing 5L groups. (JM-KY)

14718.3: Unid, in ARQ-E3 100/360 monitored from 1249–1341. (MR.X) (*RFHI: French Forces Noumea logged here repeatedly in the past. — Ed)*

14873.3: Unid, in ARQ-E3 192/340 at 1343. (MR.X) (*This is RFLIG: French Forces Cayenne — Ed)*

14931: 8BY, French Intelligence at 2054 in CW w/"vvv de 8by." (MADX-MD)

15011: SPAR 06 wkg Andrews VIP for a series of msg relays on this freq and later on 11220 re: AR w/QUID 91 out of Mildenhall BANTER Control. At one point SPAR 06 pressed Andrews: we need a direct pp re: AR, we're close to sucking fumes. Last heard making plans to divert to Brize Norton for refuel at 0310 in USB. (JJ-CA)

15088: CG 1711 wkg CAMSPAC Point Reyes w/periodic ops reports at 0232 in USB. (JJ-CA) (*Alternate aero OR freq used for years but logged more often now that the new solar cycle has begun — Ed)*

15673: Unid, presumed Yugoslav diplo in RTTY 75/400 crypto w/4F headers followed by GYGYGY . . . at 0915. (JD-UK)

15725: CHARLIE-INDIA-SIERRA 202 in USB wkg VICTOR-ALPHA-DELTA w/ comms checks and data at 0415. (JJ-CA)

15916.9: Unid, Indian diplo (probably 8WD listed on 15920) in RTTY 400/50 opchat w/every word three times at 0905. (JD-UK) (*8WB1 logged on 15917.7 several times in the past. . . Indian Embassy Belgrade to New Delhi link. Seems to fit better — Ed)*

16218: Unid, FAPSI broadcast to "HZW" in RTTY 75/500 w/no tfc so link number not seen (previously reported by lots of people as 00117 at 2000. Repeat reported as 13556 but I have not been able to hear it. (JD-UK)

16780.5: UIFV, TKH Amderma at 0711 in ARQ w/admin to UAT (is ex UQDB). (HOOD-UK)

16787.5: UROS, TKH Dnepr at 1047 in RTTY 50/170 w/crew TGs to USO5. (HOOD-UK)

16789: UIAE, *Ivan Zimakov* (MB-0005) at 0741 in RTTY 50/170 w/admin and OBS msg to UDK2. (HOOD-UK)

16797: UGMS, *ST Kapitan Smelov* at 0625 in RTTY 50/170 w/admin to UGW. (HOOD-UK)

16803: P3AZ7, BATM Irvinga at 0725 in RTTY 50/170 w/admin to LYL (vsl near Las Palmas) (HOOD-UK)

16829: USU, Mariupol Radio at 0745 in ARQ msg to UZMT, TKH Rubezhnoye for Km Polyanikov. (HOOD-UK)

16914.1: SPH, in Sitor-B at 1600 w/tfc list. (PP-FR)

16923: OFJ, Helsinki in CW w/tfc from 1500 to 1600. (PP-FR)

16980: UGW, Novorossiysk Radio at 1433 in CW msg to UIXO Temruchanin. (HOOD-UK)

17050: 4XZ, Israeli Navy (only the callsign made sense) . (PP-FR)

17074: LGX, Rogaland,Norway w/tape announcing freq for tfc list. (PP-FR)

17103.2: XSQ, Guangzhou Radio monitored at 1900 in CW w/ID tape (as "CP DE XSQ") (HOOD-UK)

17180: RFFME, French Navy Paris in FSK 150/85 at 2230. (MR.X)

17231.3: CWA, Cerrito Radio at 2242 in CW w/call tape. (MADX-MD)

17344: LZL, Bourgas Radio at 1915 answering unid vsl. (HOOD-UK)

17441.6: 5YE, Nairobi Meteo at 1836 in RTTY 100/850 w/synoptic wx tfc. (MADX-MD)

17445.5: 5YE, Nairobi Meteo at 1840 in FAX 120/576 w/moderate fading on signal. (MADX-MD)

18009: Navy Auckland wkg LIMA FOXTROT FOXTROT at 0222 in USB, adv that printability was good. (SD-AU)

18241.9: Unid but presumed ZRO, Pretoria, RSA, synoptic Wx in RTTY 75/400 at 1830. No FAX at this time, but a carrier on 18237.9 was assumed to be the lower tone of the associated FAX signal. (JD-UK)

18507.2: Unid in Pactor-II? poss MFA Khartoum? at 2145. (MR.X) (*Reportedly this is a Iranian variant of PACTOR broadcasting from Tehran to Khartoum. — Ed)*

18522: Unid 3 ch's (ch 1, 2, and 4 of a 4-ch system)in PICCOLO w/ch 1, idle ch 4, crypto ch. 2 from 1700–2100. (JD-UK)

19037.5: RAN, Exmouth, AUS, w/16-ch VFT keyed only on channels 3, 10, and 11. Identical w/stn previously reported on 8592.5, 10621.5 and probably elsewhere at 0940. (JD-UK)

19131: Atlas (DEA Control, Dallas) at 1512 in USB w/Long Horn (Customs Air Ops unit, Houston TX) w/radio checks. (RP-MD) (*ATLAS is a callsign used by the DEA component of the Rockwell Communications Center in Cedar Rapids, Iowa — Ed)*

19671: SPAR 06 wkg Andrews VIP for a sig check on F-910 at 0325. (JJ-CA)

22537: FUF: French Forces Fort de France monitored at 1735 in RTTY 75/850 w/test tape. (MADX-MD)

22678.7: UNID at 1737 in unid 150/810. (MADX-MD)

Contributors:

(AG) Alan Gale, UK; (ALS) Allen Stern, Florida; (BF) Bill Farley, New Mexico; (CH) Chris Halinar, Kentucky; (JJ) Jeff Jones, Calfiornia; (DC-FL) David Crawford, Florida (Via Russia); (HOOD) Anon, UK; (JD) John Doe, UK; (JK) John Kasupski, New York; (JM) Jim Metcalf, Kentucky; (MADX) MidAtlanticDXer, Maryland; (MR X) Annonymous; (RAW) Robert Wukich, Mississippi; (PP) Patrice Privat, FR; (RM) Roland "Mac" McCormick III, Georgia; (RP) Ron Perron, Maryland; (RP2) Ray Prestridge, Texas; (SD) Simon Denneen, AU. ■

cb scene

27 MHz Communications Activities

Great Gear For CB Fun — Just In Time For The Holidays!

Wherever you are, the Outpost tripod deploys in seconds for great communications.

If you're in the market for a CB handitalkie, I've just tested one that works pretty darn well. The Cherokee AH-20 offers all 40 CB channels in AM mode with maximum legal power output of four watts. The attractive black case measures approximately 6.5 inches by 2.5 inches by 1.75 inches, excluding a 7.5-inch flexible antenna. Powered by 8 "AA" batteries, the AH-20 also offers one-touch access to 10 weather channels for domestic and marine coverage.

On the front of the AH-20 is a liquid crystal display that serves as information central for this handheld radio. Below the LCD are four buttons. The WX button at the left engages the weather reception mode. The next button to the right, labeled SCAN, is slightly larger and puts the radio into CB channel scanning mode. Moving again to the right, there is a slightly larger button for instant access to Channel 9. Finally at the far right, the largest button turns on the backlighting for the display. Press it again to turn off the light.

Beneath the buttons are a speaker grill and an opening for the on-board microphone. All of the controls are labeled with gold-colored lettering. On the right side of the AH-20 is a wrist strap and a wheel for turning the radio on and off and controlling speaker volume. Below it is another wheel for adjusting the squelch setting. Near the bottom of the right side is a jack for plugging in an optional charger for Nickel Cadmium or Nickel Metal Hydride batteries or an optional cigarette lighter plug assembly to power the radio in a vehicle.

On the left side of the radio are soft-touch UP and DOWN buttons for changing channels and a push-to-talk switch. On the top of the case, you'll find a BNC connector for the antenna, and on the back of the case, there is a plastic belt clip and a hatch for the battery compartment. That's it—this is not a complicated radio, but it feels solid and well-constructed in the hand.

The performance of the AH-20 is very satisfying. The reception of weather channels is excellent. When connected to an external antenna, the transmitted audio is highly copyable, although it doesn't have as much "oomph" as a full-blown base or mobile. The audio on receive is simply outstanding; crisp and clear even though the on-board speaker is small. In short, everything works well, and I particularly liked the thumbwheels for controlling volume and squelch. They seemed easy to adjust, yet they are slightly recessed to prevent those controls from being moved accidentally.

In all, I give the AH-20 a "thumbs up." Suggested retail price is $129.95. For more information, contact Wireless Marketing at 800-259-0959 or visit their Website at <www.wirelessmarketing.com>. Be sure to tell them you read about it in *Pop'Comm.*

Maxon's Neat Micro Mobile CB Radio

If there is one disturbing trend in today's automobile industry, it's that there seem to be fewer and fewer places to mount a CB. Many of the smaller cars are just plain "spatially challenged," and many of the bigger ones, like the sports utility vehicles, have full enclosures under the dashboards that make installing a mobile CB downright challenging. Perhaps it's because of these factors that the folks over at Maxon have been seeing renewed interest in their MCB-10A CB radio. This is a four-watt, AM-only 40 channel mobile rig that is completely contained in a slightly oversized microphone housing. This is a true, all-in-one-hand radio that eliminates mounting problems because you don't have to mount it!

On the front of the MCB-10A is an LED channel display, a tiny red LED that lights when the rig is transmitting, UP and DOWN buttons for changing channels, a large red button for instant access to Channel 9, and a speaker/microphone grill. On the left side of the case is a push-to-talk button. On the top of the case is a rotary knob for on/off/volume and another knob for the squelch control. On the back of the case is a knob for hanging the radio from a microphone clip.

On the bottom of the MCB-10A is a heavy black cable that runs to a small metal box where there is a PL-259 connector for a mobile antenna. The box is small enough to be easily tucked under a

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MCB-10A
MCB-20A

The Maxon Micro Mobile MCB-10A solves mounting problems the easy way.

seat. Running out of the box is a black and red power cord which can be wired into your car's electrical system. Alternatively, you can do what I did: attach a cigarette lighter plug adapter for ultra-fast installation.

The MCB-10A offers excellent performance in a small package: good audio on transmit and clear, crisp audio on receive. The MCB-10-A also earns a hearty thumbs-up. Suggested retail price is $119.95. For more information, contact Maxon at 800-821-7848 or visit <www.maxonusa.com>.

Alpha Delta's Fast Deployment Mobile-Base Solution

If you get serious about CBing, sooner or later you'll find yourself in a situation where you want to put up a temporary base station. Some examples: you're running a special event and you want to set up a communications control station; you rent a cabin at a lake and want to maintain contact with a fishing boat; you live in an antenna-restricted area and want to be able to quickly put up and take down a temporary antenna; or maybe you want to move outside a noisy urban area to run a sideband network. The possibilities are endless, but they all share a common element: the ability to put up an effective temporary antenna and then make it go away when the work is done.

Enter the Alpha Delta Outpost Tripod mount and ground coupling system. It was designed to allow any Outbacker mobile antenna to be used as an efficient portable or base station antenna. The Outpost can be easily transported and quickly deployed with an Outbacker antenna to provide effective communications from HF through 2 meters. Also, the unit is suitable for permanent or semi-permanent installations, especially where larger antenna systems cannot be erected.

Very little space is required to deploy the Outpost. The footprint of the Tripod is a triangle approximately 5 feet on each side. The unit folds into a package only 40-inches long and 10-inches in diameter and weighs only 15 lbs. It is constructed of aircraft grade 6061-T6 aluminum and stainless steel hardware. All movable parts are secured with wing nuts, so no tools are required for set-up or tear-down.

The antenna mounting bracket at the top of the tripod can be tilted over by removing one wing nut and bolt. This makes adjustments to the antenna easy and also allows the antenna to be lowered "out of sight" when not in use.

The Outpost antenna mount is ground-dependent and must be used at ground level. It will operate efficiently on lawns, patios, driveways, parking lots, etc. The Outpost incorporates fold-out ground coupler plates to efficiently couple RF energy to earth ground. The coupler plates act as the plates of a large capacitor and this large capacitance to ground results in efficient antenna radiation. The ground coupler plates, together with the geome-

Cherokee's AH-20 CB offers 40 CB channels and 10 weather channels in an excellent handheld package.

try of the Outpost, provide a 50 ohm feedpoint impedance which is a perfect match for all Outbacker mobile antennas.

When the people at Alpha Delta told me the Outpost deploys in seconds, I was skeptical. Often the hidden subtext of these claims is that "a highly expert team of specialists who have trained all their lives for this event can deploy product X in 30 seconds." Well, I'm happy to report this is NOT the case with the Outpost — it really does deploy in seconds. Just pull it out of the box, spread the legs of the tripod, and flip down the ground coupler plates. It takes about as long to do it as it does to read about it.

Of course, you'll need an antenna to mount on the Outpost, and Alpha Delta has a doozie: the Outbacker Offroader CB mobile antenna. This is the King Kong big brother of the Outbacker Force that I reviewed in October. Fully six-feet long, the Offroader is a handsome black mast of fiberglass with a small metal "stinger" on the end. I mounted it on the Outpost and then tested it against a Shakespeare 5/8 wave CB antenna mounted at 27 feet. What I found is that the signal delivered by the Offroader was only two S-units less than the full size antenna. That's pretty amazing: a full-size antenna mounted on top of a house versus a six-foot antenna mounted on the ground, and there is only two S-units difference in signal strength.

Ed Barnat, my co-columnist, and I tried the same test with the Outbacker Force and found a three S-unit difference when compared to the Shakespeare. The bottom line: the combination of the Outpost ground coupling tripod and the Alpha Delta Outbacker Offroader performs admirably when you need an "easy up" solution that delivers more wallop than a conventional mobile antenna.

The Outpost Tripod is $199 plus S&H. The Outbacker Offroader (which can also be used on a vehicle with a bumper or trailer hitch mount) is $129.95. For additional information about either of these products or to order them, call Alpha Delta at 606-598-2029 and be sure to mention you read about it in *Pop'Comm.*

Until next time, keep those cards, letters, and shack photos coming. Write to me at *Pop'Comm* or E-mail me at <lightkeeper@sprintmail.com>. ■

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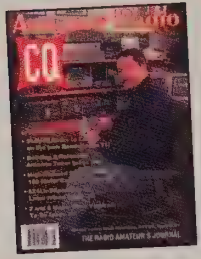

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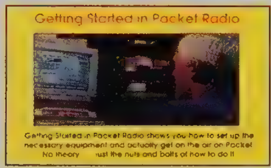
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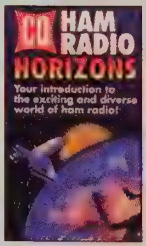
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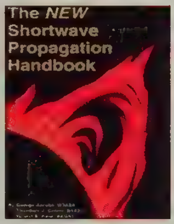

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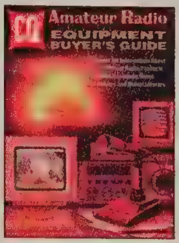

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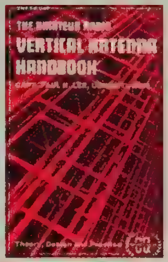

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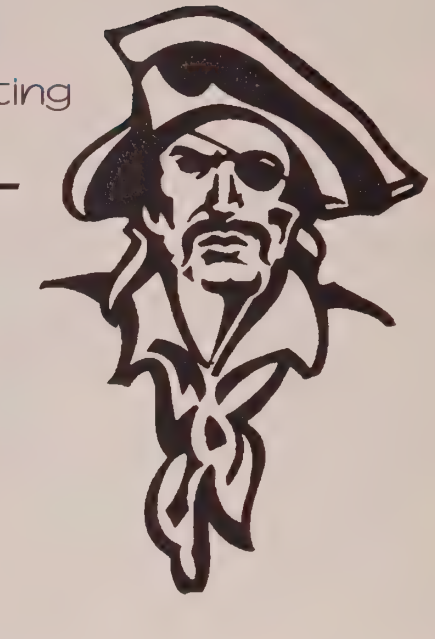


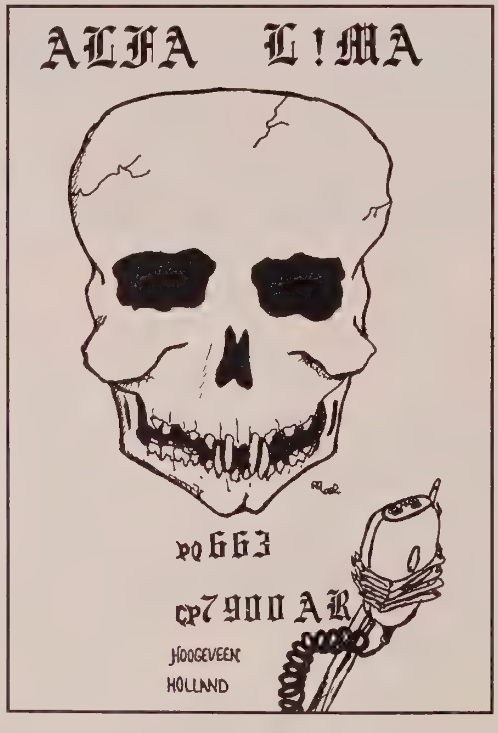
Checking Out 6955 — And Other Hot Spots — For Weird Radio

We've got lots of logs, so away we go. Remember, your pirate loggings are vital to the success of the column, so send 'em along today.

K-MART, 6955 USB at 2015 with E-mail address as <stonecold6955@hotmail.com> (Bill Finn, PA) 0516 and weak. Also at 0330 with Beach Boys and 0405 (**on 6950 USB**) with Kansas. (Randall Ruger, CA) 1457 with all Beach Boys. (Tim Taylor, PA)

Radio Eclipse, 6955 USB monitored at 2316 with repeat of Steve Mann's dance party. (Finn, PA)

Radio Metallica Worldwide, 6955 at 2245 with metal music marathon. Also at 2158 with request program, Johnny Angel with Dr. T. commentary; Sr. E. is on vacation. Also at 1400 with Led Zeppelin medley. And 2010, 0032, and 0314. Also at 0020 with jazz/fusion. Discussed their relay service. Also at 0136. (Finn, PA) 0313 with hard rock. Off abruptly at 0343 during closing theme "Secret Agent Man." (Mike Elcsisin, NY) 2034 with mention of a 20,000-watt weekend. Off 2035. Also at 1439 with songs, profanity, ID, and chipmunk-like voice-over effect. (Taylor, PA)



Jon Oldenburg, in Appleton, Wisconsin, recently received this QSL from Alfa Lima, based in Holland.

Blind Faith Radio, 6955 USB at 1516. Various songs, Yahoo drinks to cool down, QSL info. (Finn, PA) 2106 with lots of talk about Woodstock and music from same. Dr. Napalm said there was no need to send stamps or money for QSL postage. (Taylor, PA)

WHYP, 6955 USB at 2148 with Ravi Brownyard hosting and E-mail <aswhyp1530@yahoo.com>. Also at 2327 with Upper Sanjay band, clips of Ravi and James also at 0253 giving E-mail address. (Finn, PA) 1604 with fake weather report, James Brownyard. (Taylor, PA)

JRR, 6950 at 0024 with ID, Providence drop and request for letters. **Also 6957 USB** at 2210. Thirty-three cents for a QSL. Slammed by a huge signal on **6955**. Also 0144 with cows and laughing ID. (Finn, PA)

Radio Smooth, 6955 USB at 2339. Captain Ron and Mr. Fisherman (?) Also **6954 USB** with Chemical Brothers, speculation on why he broadcasts (he likes to), Rolling Stones. No drop or E-mail heard. (Finn, PA)

KIPM, 6950 at 0248 with spooky sounds. (Ruger, CA)

Deliverance Radio, 6955 USB at 0518. Dueling Banjos, pig squeals, audio from movie "Deliverance." Also at 0545 with same program. (Ruger, CA) **6955 USB** at 2112 with end of broadcast. (Finn, PA)

KMUD, 6954 at 0150 with Zeppelin, Monty Python, "The muddy sounds of KMUD," with duck quacking. Also at 0325 and at 0318 with Black Rock Radio ID. (Ruger, CA)

Radio Midi, 6955 USB at 0458 with electronic "outer space" type music. (Ruger, CA)

Radio Tornado (6950? Ed) at 0218. Very strong, claims to run 10 kW. Same old mad-at-the-world routine. Blue Ridge Summit address given. Off at 0226. (Peter Giberti, MA) **6950 USB** at 0015. (Finn, PA)

WMFQ, 6953 LSB at 0029. Screaming ID, weak signal. (Finn, PA) 2252 with Providence address, ID, songs. (Taylor, PA)

Voice of Anarchy, 6955 at 2018 relayed by Dr. T. Also at 2124. And at 2331.(Finn, PA)

WACK Radio, 6955 USB at 2108 during sign-off, with phone of 888-959-8177. Also at 0232 with music, skits. (Taylor, PA)

Radio Gary More, 6954V and tentative, at 2302. This pirate sometimes goes by the name Radio Zodiac. (Taylor, PA)

Radio Three, 6955 USB at 2115 with ID and closing. (Taylor, PA)

VBU, 6954V (tentative) at 2224 sign-off. (Taylor, PA)

Jimmy the Weasel, 6955 USB at 0250. Chattanooga Shoeshine Boy with weather report. (Taylor, PA)

PBC Radio (tentative) **6953 USB** at 0149 with weather, and Jimmy the Weasel (and it may actually have been that station) also mentioned 91.1 MHz. (Taylor, PA)

Nexus One, 6955 USB at 0230 with ID, test, ID, and start of show. (Taylor, PA)

Radio Garbonza/WBIG, 6955V at 0015 with "this is your brain on drugs" skit. The op's on-air name sounded like Big Mike or The Big Guy. Gave Belfast, New York address. (Taylor, PA)

CERW (Crazy Elmo's Relay World), 6955 USB at 2341 with ID, instrumental music. Also at 2157 with "They're Coming to Take Me Away" song. (Taylor, PA)

WLIS, 6955 USB at 2345 with ID, Blue Ridge Summit address, mention of 100 different QSL styles to choose from

BY EDWARD TEACH

(named after particular listeners). Wants $1 or three unused 33 cent stamps.

Radio Beaver (tentative), **6955 USB** heard at 0406 with Merlin, Ontario, address, Irish bagpipe music, ID, "Amazing Grace."

Radio Azteca, 6955 USB at 0442 with mention of Rusty A. Ortega and Bram Stoker. Apparent technical difficulty and off the air. Also at 2224 with program 34. Gave Belfast, New York address, bogus listener letters, "Furry Critter Report," and "Story Time." (Taylor, PA)

WMPR, 6955 at 2347 with possible Grateful Dead tune, ID, and off at 2355. (Taylor, PA)

CBC Radio (tentative), **6955** at 0206 saying broadcasting from Toronto and gave the weather and temperature. (Taylor, PA)

That's it for this month. Another good crop of reports! Keep on listening to 6955 and the other likely hangouts and keep on sending in those nice logs. Also, I can always use copies of recently received pirate QSLs and, certainly, photos of pirate installations (which seem to be quite rare).

Thanks very much for your continued and much valued support. See you again next month! ■

Tuning In *(from page 4)*

way home from a too-short vacation, and you and your entire family are tired. It all happened so fast; you missed the two signs warning of a lane shift up ahead, and in the next instant your car is in the center median up to the hubcaps in mud. Everyone's OK, but a bit shaken up. You turn on the CB to Channel 9, nervously key the mic and say, "Break Channel 9, this is Brian — I'm westbound on Texas Highway 547 near the Smithville school. Our car has run into the ditch and I need a tow. Does anyone copy?"

That's a heck of a lot better than announcing, "Hello, we've run into the ditch on Highway 547, can anyone help me?" ALWAYS give your CLIP; Call (or name), Location, Injuries (Are there any injuries?), and Problem. Precisely what do you need? (Tow truck, gas, help to get a possible impaired driver's license plate/direction of travel reported?) Remember the CLIP, and repeat the information several times. Just because you don't hear a response, doesn't necessarily mean the Channel 9 monitor hasn't already responded to your call for help. Be patient and ALWAYS announce your intentions; are you changing to a local channel or briefly scanning the CB band in search of a conversation?

In the spirit of this holiday season, why not give something *back* to your community by joining a REACT or other volunteer monitoring team? While there's no requirement, legal or otherwise to belong to REACT, International, Inc., to get or give help on CB Channel 9, becoming a member of REACT gives you the insight and expertise to become a *better* monitor. You can contact REACT International, Inc., 5210 Auth. Road, Suite 403, Suitland, MD 20746-4330. Remember: During major emergencies, cell phones and public safety communications frequently fail. With proper planning, you and your trusty CB can be a lifesaver. What better time than this holiday season to donate your time to Channel 9 — and other emergency and disaster preparedness work. If you don't help others when the chips are down, who's going to help you? And who knows, maybe you'll keep that holiday spirit year-round.

To all of you, a very Merry Christmas and Happy Hanukkah. Take care and we'll see you in January, 2000. ■

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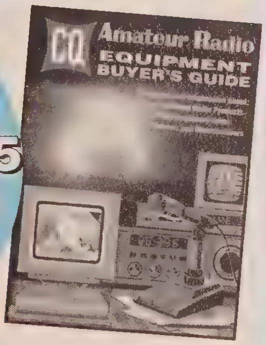

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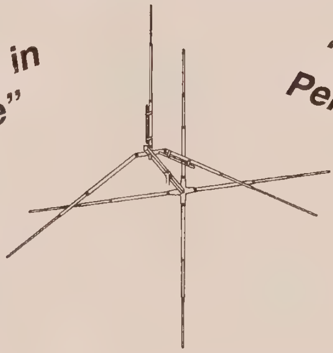

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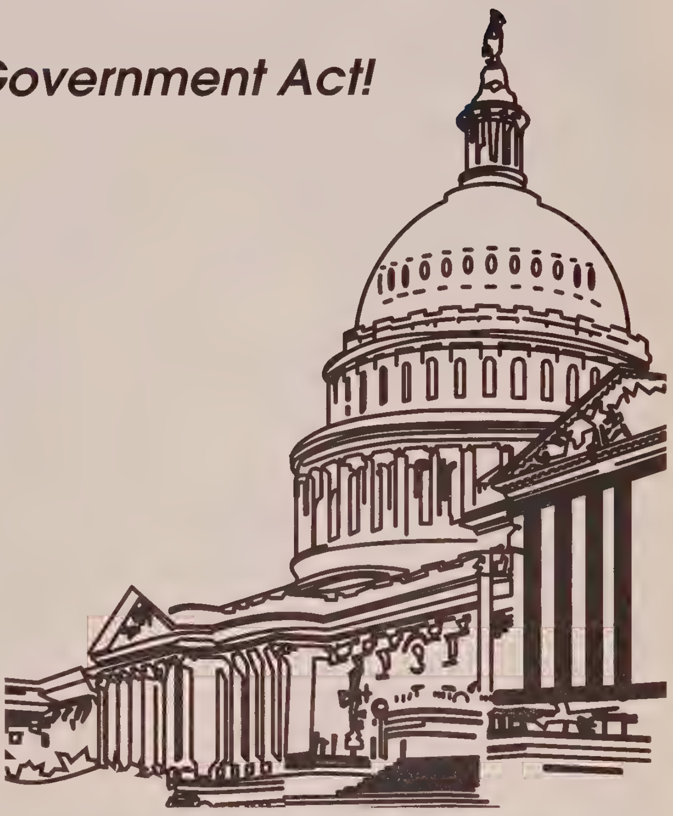
FCC Actions Affecting Communications

The Dubious Intent Of Another Government Act!



What's it all about, CALEA? Some five years have lapsed since Congress had passed the Communications Assistance for Law Enforcement Act (PL 103-414, 108 Stat. 4279) in October 1994. Behind this Act's noble name, lies a dubious intent. What sort of assistance from the communications sector does Law Enforcement have in mind? Disaster communications recovery? No. Providing communications backup circuits if a 911 call center goes down? Mercy, no. Operating alternate communications channels when digital public safety trunked radio systems crash? How naïve! CALEA's objective is to obligate telecommunications carriers to deliver the contents of your communications, personal, business, or otherwise, to curious law enforcement agencies having a court order and, presumably, a need-to-know.

"Telecommunications carriers" encompasses all common carriers, including your cellular or PCS phone company, as well as Commercial Mobile Radio Service dispatch services. It's not your familiar local police agency that will likely take great advantage of CALEA. This act, and it's evolving outcome, have been pushed through Congress and the Federal Communications Commission largely by the U.S. Department of Justice (DOJ) and the folks at the Puzzle Palace — The National Security Agency (NSA).

In late August, in two separate Report and Orders under CC Docket 97-213, the FCC finally issued standards for implementing Sections 102, 103, and 109 of CALEA. Section 102 pertains to the definition of "telecommunications carrier," and §109 to whether the wiretap requirements of CALEA are "reasonably achievable." (WT Report 99-24, Second Report and Order FCC 99-229.) Specific technical standards for §103 of CALEA have been hotly contested by the communications industry. This has everything to do with cost. More on that in a moment. The Federal Bureau of Investigation had proposed a list of nine technical requirements, known in the industry as the "punch list," to which carriers would have to comply. The FCC authorized all technical capabilities of Telecommunications Industry Association (TIA) standard J-STD-025, along with six of the nine punch list items. (ET Report 99-4, Third Report and Order FCC 99-230.) J-STD-025 covers location information and packet mode communications. The Commission found location information to include the origin or destination of a given call, but not necessarily the exact location of a caller. For example, the initial and final cell site locations of a call were found to be sufficient for agencies with appropriate court authorization. By September 30, 2001, telecommunications carriers will have to be able to access packet communications for law enforcement agencies. The FCC has found, however, that technicalities in J-STD-025 may provide more information to law enforcement officials than a particular court-ordered wiretap may authorize. Therefore, the Commission has asked TIA standards Subcommittee TR45.2 to rework the standard so that only authorized information is received. The FCC wants the standard revised by September 30, 2000. All CALEA wiretap capabilities except packet mode must be implemented by the statutory compliance date of June 30, 2000.

The six punch list items to be provided for law enforcement officials include the contents of conference calls, including listening to parties on hold; notification when parties hold, join, or drop during a conference call; dialing and signaling during a call, such as activating three-way calling, call forwarding, etc.; in-band and out-of-band signaling, such as ringing or busy signals; timing information to correlate call identifying information with call content; and dialed digit extraction when another carrier is accessed during a call, and destination digits are dialed. The Commission rejected the DOJ's request for surveillance status — when a successfully wiretapped call was in progress; a continuity tone to assure that a circuit had not been lost; and feature status — when specific subscription based call features, such as call forwarding, were added or cancelled.

And what about that nasty cost factor? Equipment and services deployed after January 1, 1995, essentially about the time of the advent of digital wireless communications in North America, are called into account in these proceedings. Carriers are not anxious to invest in upgrades to provide these surveillance features. Millions of dollars are at stake. For nearly five years, Congress, the FCC, DOJ, and the telecommunications industry have furiously debated the enormous cost of implementing CALEA, and who should pay. It is a bit of an oxymoron that with equal fervor Congress pushes to outlaw radio monitors from listening to digital wireless phone telephone conversations that, Congress believes, could be

BY ALAN DIXON, N3HOE <n3hoe@juno.com>

accomplished with a home computer, an easily modified scanner, and some free software available on the Internet.

The FCC Issues Rules For Centralized Trunking Below 800 MHz

The new rules, issued this past summer, promulgated in the Third Memorandum Opinion and Order, **FCC Docket 99-138**, are designed to "readily facilitate" automated trunking operations in the lower frequencies, much like existing 800 MHz trunking. This action was part of the FCC's ongoing "Spectrum Refarming," PR Docket 92-235 et seq. There, the Commission had previously facilitated narrow band FM, SSB, and digital modes, and consolidated 20 specific radio services into two: Public Safety and Industrial/Business.

The main points of this action are: Consent is required from some existing licensees when applying for centralized trunking licensing on shared spectrum below 800 MHz. The Commission further affirmed that trunking proponents must secure the consent of all co-channel and adjacent channel licensees who might be affected, before applying for a trunked system license. Certified frequency coordinators evaluate proposals for shared spectrum trunking for the FCC, with the Commission maintaining authority to resolve conflicting proposals. The FCC has established procedures to guard against speculative applications, or frequency warehousing, for these trunking applications. A 10-channel limit is set for initial trunking license applications, however, public safety licensees may apply for *more* than 10 channels if appropriate need can be shown.

National Telecommunications Information Administration Chief, Larry Irving Leaves

The NTIA is a U.S. Commerce Department agency that manages federal use of the radio spectrum. In 1993, President Clinton appointed Mr. Irving to head the NTIA. Irving's reasons for leaving are unclear. Legislative Assistant to Senator Byron L. Dorgan (D-ND), Gregory L. Rohde, is slated to succeed Mr. Irving.

Have a warm Christmas and a happy new Y2K! And don't forget to write to me here at *Pop'Comm* — if your computer still works. ■

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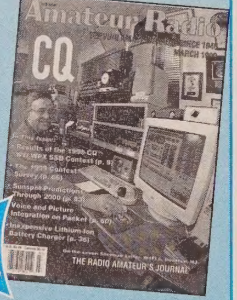

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Radio Communications Humor

Move Over Santa, Here Comes Bill!

Hello friends and welcome to the countdown. By now, many of you are genuinely concerned about the horrors of Y2K, but because I'm still a kid — albeit a pretty *old* kid — *my* countdown will end on Christmas morning, with visions of sugar plums, and perhaps a new scanner or receiver dancing in my materialistic head. Once you make sure you have milk, bread, eggs, and toilet paper (which will be hoarded by lunatics), please join me and forget Y2K. Enjoy your holiday season, whatever it is. Remember — all the power plants have manual switches. So do all the water plants, sewage treatment plants, etc. All those financial institutions have checked their systems, the ATMs are guaranteed to work, and the folks at your favorite convenience store are stocking up for the worriers and hoarders. If power fails, or water stops flowing, or the thunderbowl just stares at you when you push the lever — relax. All the people who make those things work have big manual switches and valves which they promise to turn, switch, throw, and swing as necessary. You'll be fine if you don't worry, and above all, don't contribute to the problem.

This is not to say there won't be some odd things happening, but with possible the exception of third-world airlines (particularly the ones with coal-fired jets) most everything will go on quite nicely. I love to stay home or with friends on a holiday, and I urge all of you to do the same, sharing the warmth of both central heating and friendship.

Some of you may remember that I live on a dairy farm. Let me assure you that except for helping round up the occasional stray, I don't work on the farm — your milk supply is safe. My landlord, however, has assured me that the cows are not in any way sensitive to date changes, and are all certified (by their maker) to be Y2K compliant. Milk will flow, and like a good dairy farmer, he always has generators standing by for power failures — the cows can't wait for Confounded Edison or whoever is pumping the watts down the wires for those milking machines.

Now, let's get on to the season at hand. So far as I understand it, most cultures encourage giving year-round, and many seem to increase that emphasis during this time of year. When I was younger, I joined them all in encouraging everyone I could to give things to me — in fact, I was the kind of kid who would show up in Santa's line at Gimbel's with a green ledger sheet listing catalog numbers, page numbers, description, option codes, color choices, and current retail prices neatly written in the little boxes. I dreaded that someone might mistake a Hammarlund for a Hallicrafters or a Fender Stratocaster for an Impala fender. I also numbered my choices in order of importance, beginning with the holy grail — the coveted Collins S-line — and ending with the more practical "socks & underwear" which I hoped no one would buy. Lately, though, I crossed over the half-century mark — carefully lifting the barbed wire and stepping through with all the precision warranted by the consequences of even one careless maneuver. To my surprise, some changes have occurred. This year I have no list. I still love — no, I *like* gadgets — from frequency counters to harmonica repair tools (I fix my own chromatics) and I pick flea-market junk boxes to find the rare sprinsen-needle or knibbling pin extractor, but I have discovered yet another way to have fun.

Give stuff away. If for no other reason, your spouse will love you for it. You'll also have space in your radio room to bring more junk from the attic and the basement. You're a radio person. I *know* you have junk! You have boxes of resistors, knobs, test equipment, meters coils, complete receivers, scanners, antennas, NiCd chargers, and things even I can't comprehend why anyone would keep. Give components to your ham friends; give receivers to some neighborhood young-people's organization. Invite fellow hobbyists to visit and load them down with things you're really saving just because they're too valuable to throw away. Pass on the books you've read and think you'll refer to, but haven't opened in six years. Get rid of the old magazines (well, not *Pop'Comm*, but all the others.) Someone will love to read them.

If you think this is insanity, just wait! There's more. I have learned first-hand that if you give stuff away to someone who would enjoy it, you'll never miss it. That's a law of physics, and although Gordon West hasn't been able to quantify it and include the formula in his 3rd edition, it's fact just the same.

Now, go to your favorite radio store and buy a couple of little kits; AM receivers, crystal radios, gadgets, experimenter sets, and maybe even a ham radio license study guide. Wrap them up and surprise a neighborhood kid who's shown some scientific curiosity. Maybe you know someone who would love to have a scanner, but for some reason or another doesn't have one. Got an old one? Maybe just a four-channel, or an old 10-channel one with crystals? You know where I'm going with this, don't you?

Here's the deal. I learned — just a few years ago— that it is not only better to give than receive — it's *fun*!

The long-suffering Mrs. N3AVY and I love to gather things; new, old, a ham or turkey, a pie or box of candy — and surprise someone. We try to do it year round, but we do forget sometimes. And here's where I put someone else's money where my mouth is: Ten readers who write and tell me about something nice they've done for someone, whether with radio stuff for a neighborhood youngster or a fresh-baked pie for someone who needs a brighter day — will receive a copy of Ed Hammond's book, *Ham Radio: Your Ticket to Worldwide Adventure*. Send your letters to me at "The Loose Connection," *Popular Communications,* 25 Newbridge Road, Hicksville, NY 11801 or online to <popularcom@aol.com>. Our jolly editor, Harold *"Ho Ho Ho"* Ort and I will pick out what we think are the 10 readers who have done the nicest things for someone this season and send off Ed's book, autographed by Ed (the author) and me (the editor). If you're wondering where the humor is this month, it's that Ed left a case of the books here at my house when he was giving a seminar near Washington, DC, and when he reads this, he'll find out I'm giving them away. Now *that's* funny. Ho ho ho. ■

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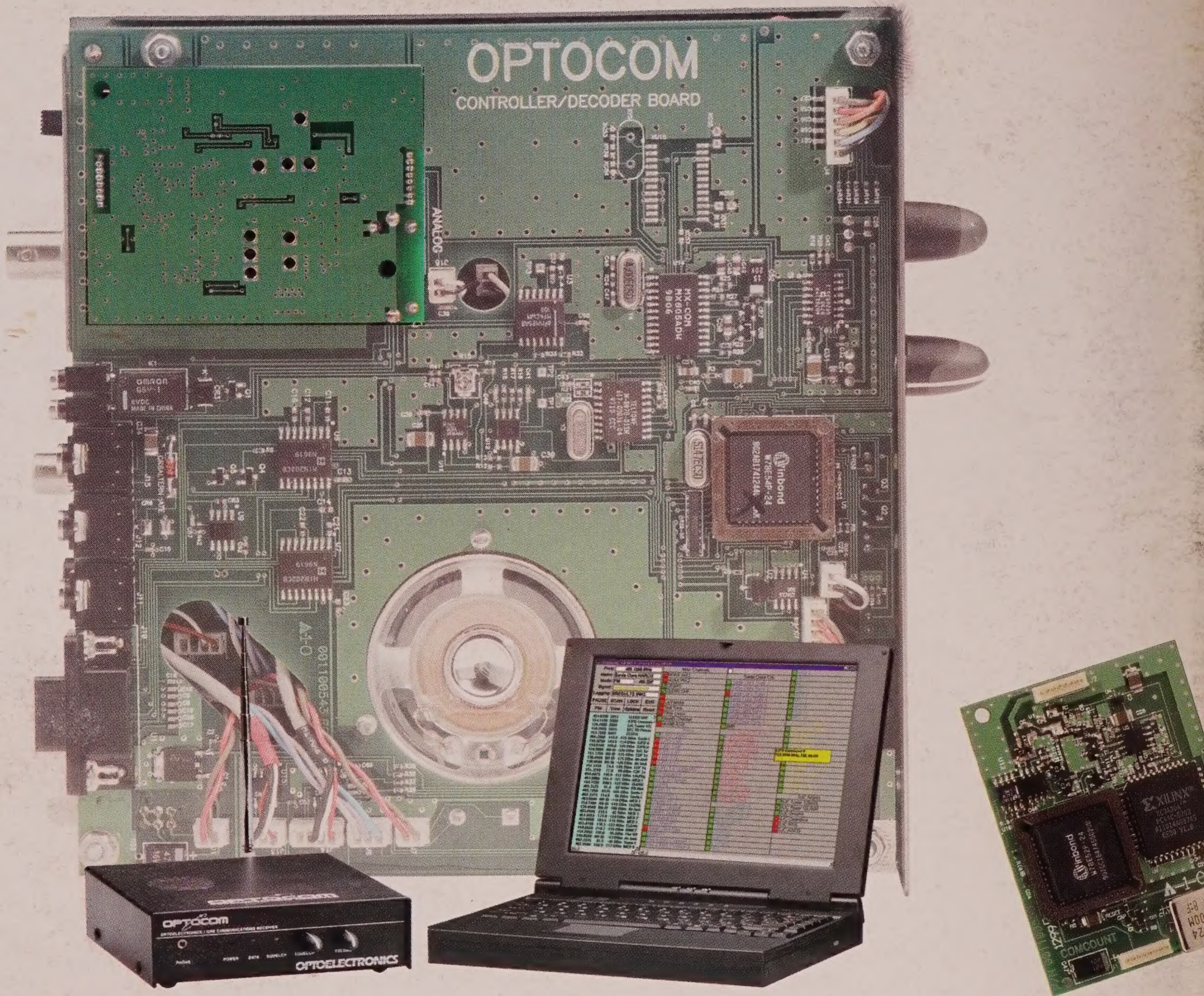

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